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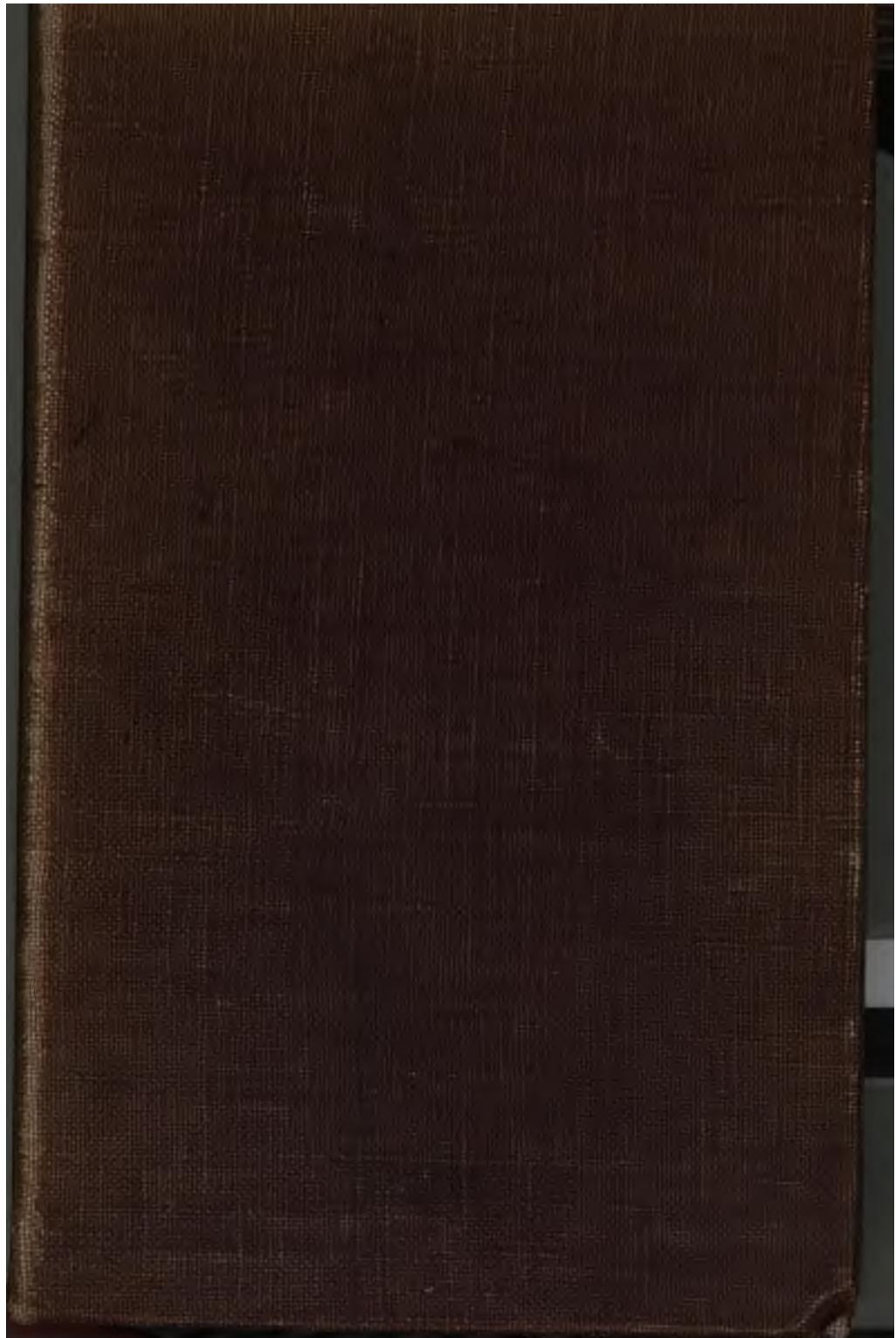
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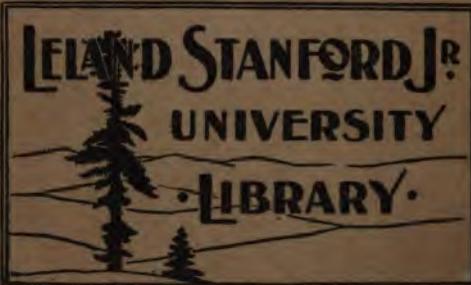
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ISIS REVELATA, &c.

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ISIS REVELATA:
(An Inquiry)
INTO
THE ORIGIN, PROGRESS, AND PRESENT STATE
OF
Animal Magnetism;
BY
J. C. COLQUHOUN, ESQ. ADVOCATE,
F. R. S. E.



VOL. II.

EDINBURGH, MACLACHLAN & STEWART,
AND BALDWIN & CRADOCK, LONDON

ISIS REVELATA:

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ANIMAL MAGNETISM.

BY

J. C. COLQUHOUN, Esq.

ADVOCATE, F.R.S.E.

Ingenii commenta delet dies; naturæ judicia confirmat.—CICERO.

Non fingendum, non excogitandum, sed inveniendum et obseruandum
quid Natura faciat aut ferat.—BACON.

VOL. II.

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Πολλάκις δὲ ἐλίγης δύνης μίγα γίγνεται ἄλγος.
Καὶ τὸ τῆς λύσαις θέτια φάρμακο δόσ.

Τὸ δὲ κακαῖς νούσοις κυκάμινον ἀργυραλίας τι
·Λύφαρμανος χιεροῦ διψήστηθος' ὑγιῆ.

SOLON, apud Stobæum.

Sæpe dolor tenuis morbos produxit acerbos,
Tollere quos nullis sit medicaminibus :
Sæpe diu sevo jactatum corporis æstu
Contactu sanum reddidit una manus.

GROTIUS.

232283

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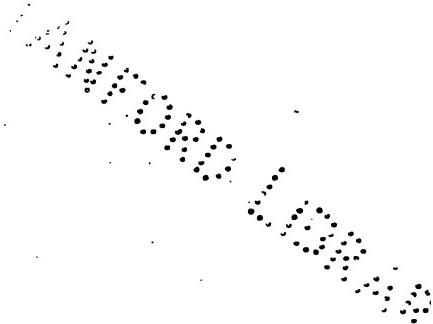
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ANIMAL MAGNETISM.

CHAPTER XXI.

FROM all the cases of the natural somnambulism referred to in the preceding chapters, looking to the phenomena which are found to occur in all, or, at least, in the greater number of instances, I think we are fully entitled to deduce the following conclusions :—

In general, the Somnambulist, apparently without the use of any of the organs of external sensibility, sees and distinguishes objects as distinctly as when awake and in his ordinary state ; he moves about, by day or night, with equal, if not with superior confidence and security, carefully avoiding all obstacles that may happen to stand in his way ; he performs acts, while under the influence of this affection, of which he is totally incapable when

awake; and fearlessly exposes himself to dangers which he would otherwise shrink from with terror. He reads, writes, sings, plays, thinks, reflects, reasons, and performs a variety of the most delicate operations, whether intellectual or mechanical, not only as if he had the complete use of all his senses, but as if the power, acuteness, and delicacy of his faculties were actually increased, in consequence of being emancipated from their organic thraldom. In almost all of these cases, we are assured that the eyes of the somnambulists were either exactly closed, or open and staring, and destitute of sensibility;* and from the decisive experiments that were made in several instances, it appears to be clearly made out, that the faculty of sight neither was, nor could possibly have been, exercised through the medium of the usual organ of vision. All the other senses, too, are frequently found in a dormant

* " Somnambulists generally walk with their eyes open, but these organs are, nevertheless, frequently asleep, and do not exercise their functions. This fact was well known to Shakespeare, as is apparent in the fearful instance of Lady Macbeth :

Doctor.—You see her eyes are open.

Gentleman.—Ay, but their sense is shut."

Macnish, *Philos. of Sleep*, 2d. ed. p. 164.

The same author had previously observed, that " some animals, such as the hare, sleep with their eyes open; and I have known similar instances in the human subject. But the organ is dead to the ordinary stimulus of light, and sees no more than if completely shut."—*Ibid.* p. 25.

or suspended state, as appears in a variety of cases; and this fact would probably have been rendered still more prominent in these and other instances, had the proper experiments been made with a view to ascertain its existence. Somnambulists, it also appears, are capable of answering distinctly any questions that may be put to them, and, occasionally, of carrying on a rational conversation; indeed, their intellectual faculties, while in that state, seem to possess much more than their usual clearness and energy. It has been likewise observed, that individuals, while under this affection, occasionally manifest a superior knowledge of subjects and of languages, which they had not previously studied so as to remember, or with which they had been but imperfectly acquainted. One of the most remarkably characteristic circumstances attending this singular state of existence, and which is invariably found to accompany the perfect crisis, is, that, on awaking, the individual who had thus, as it were insensibly, performed all these operations, retains no recollection of any thing that occurred while he was under the influence of the paroxysm. The same individual, when awake and when somnambulist, appears like two entirely different persons.*

* In a Note at the 178th page of his *Histoire Critique du Magnetisme Animal*, M. Deleuze justly observes, that this is the most

It is worthy of notice, too, that the acts of the somnambulist are almost always performed with a degree of freedom, boldness, and precision, superior to what he manifests when awake; and that he generally succeeds in every thing he attempts. There is no instance, so far as I am aware, of a

distinguishing characteristic feature of somnambulism. There are, he says, somnambulists who have their eyes open, who hear very well with their ears, who are even *en rapport* with every body; there are some in whom a single faculty is augmented, and who, in other respects, have only confused sensations; there are some who speak with considerable difficulty, &c. But hitherto not a single instance has been observed in which the individual, when awake, recollects any thing that occurred in the state of somnambulism.

After noticing the very marked distinction between this state and that of ordinary sleep and dreaming, M. Deleuze proceeds to point out a very extraordinary psychological phenomenon, viz. that some somnambulists have spoken of themselves as of two different individuals in that and in the waking state. Of this phenomenon he adduces two examples.

Mademoiselle Adelaide de F. became somnambulist without having been magnetized. She had no idea of the personal identity of *Adelaide* and *Petite*—the latter being the name she received and gave herself during the paroxysm.

Madame N. who had received a distinguished education, having lost her fortune by a law-suit, determined, with the consent of her husband, to go upon the stage. Whilst occupied with this project, she fell ill and became somnambulist. As in her somnambulism she gave reasons against the step she was about to take, her magnetizer asked her to explain herself, and he received answers which surprised him. "Why, then, will you go upon the stage?" "It is not I, but she." "But why, then do you not dissuade her?" "What should I say to her—she is a fool."

somnambulist awaking spontaneously in the midst of any operation he has once undertaken ; nor of his perishing amidst the dangers which he frequently encounters. There are, it is true, several instances of somnambulists who have perished in consequence of having been suddenly awakened by the imprudent alarm and fatal precautions of the witnesses of those perils to which they were apparently exposed ; but the general experience of all times seems to lead directly to the conclusion, that the somnambulist is guided by other senses or instincts ; in short, that he is protected from injury by other and surer means and guarantees of security, than those by which his conduct is regulated in his ordinary waking state. So long as he is left undisturbed in his proceedings, he acts fearlessly and is safe; a sudden awakening alone, by restoring him to his natural state, causes him to perish.

The circumstances above enumerated, as constituting the distinguishing characteristics of the state

The phenomenon of seeing or feeling one's self double is not unfrequently observed in dying persons, who, with full consciousness, die of chronic complaints or gangrene, *e. g.* consumptive or dropsical persons. They separate the suffering creature, as something external, and speak of him as of a third person. Brandis tells us that a well known physician, in the last stage of a dropsy, always talked to him as if he were the patient, and the latter the physician. This is a curious fact, but our medical men, it would appear, deprecate all investigation into such matters.

of somnambulism, ought, I think, to have been sufficient, if duly attended to, to make the physiologists aware, that the phenomena are quite incapable of being satisfactorily explained upon the received principles of their science. Here, there can be no question about the peculiar mechanism of the eye, of the ear, &c. or about the mode in which impressions are received and conveyed to the mind in the ordinary state of the organism. In order to elucidate this interesting subject, we must investigate more profoundly the phenomena of the spiritual nature of man, and endeavour to discover how his faculties can be exercised without the ordinary use of their appropriate organs.* In proceeding to this investigation, we ought to reflect seriously upon the following aphorism of Lord Bacon, which is so peculiarly applicable to the present state of Phy-

* In the words of an anonymous author, who is evidently no mystic, " it is certain that, in this state, the whole series of organs, which is formed for the use of the peculiar internal life of the spirit, appears to undergo a change, and thus also the soul does not communicate in the usual manner with the external world. The individuals hear, see, taste, feel, smell—the sensitive power is still present, as usual ; but the eye-ball is motionless—they do not see with the eyes, nor do they hear with the ears ; it is indifferent whether these are open or shut, the whole head, the whole brain, seems deprived of its vital energy, and all life appears to be concentrated in the epigastrium ; another proof that the organ does not generate the power, but that the power forms the organ."—See *Das verschleierte Bild zu Sais, oder die Wunder des Magnetismus.* Leips. 1830. P. 69, 70.

siology :—*Frustra magnum expectatur augmentum in scientiis ex superinductione et insitione novorum super vetera ; sed instauratio facienda est ab imis fundamentis, nisi libeat perpetuo circumvolvi in orbem, cum exili et quasi contempnendo progressu.*

Phenomena in some respects similar to those we have been considering, may be occasionally met with in some of the lower animals. I shall notice only one remarkable instance. Spallanzani observed that bats can fly with great certainty and confidence in rooms, however dark, without striking against the walls. He found, that, when their eyes were covered, they could fly with as much precision as before ; and even when their eyes were put out, no alteration in this respect was observed. From his experiments, Spallanzani was disposed to conclude, that the bat must possess a *sixth sense*. The appropriate organs of vision had been destroyed, and therefore it could not be by means of sight that they were enabled to avoid all obstacles. In many individuals, the ears were stopped, so that it could not be by hearing. In others, the nostrils were stopped, so that it could not be by smelling ; and taste is out of the question. In these circumstances, shall we adopt Spallanzani's idea of a *sixth sense*, or shall we presume that the internal sense or instinct of the animal was informed through other

*media than the usual organs of external communication? **

As matter of history, and with a view to assist us in our investigations into this very curious subject, I may here be permitted to advert to some of those theories which have been propounded by certain ingenious men, in order to account for the extraordinary phenomena of somnambulism.†

* Sir Charles Bell accounts for this phenomenon in a somewhat similar manner. Speaking of the wing of the bat, he observes, that "it is not a wing intended merely for flight, but one which, while it raises the animal, *is capable of receiving a new sensation or sensations, in that exquisite degree so as almost to constitute a new sense.* On the fine web of the bat's wing nerves are distributed, which enable it to avoid objects in its flight, during the obscurity of night, when both eyes and ears fail."—*Bridgewater Treatise*, p. 70.

Of the sufficiency of this explanation I shall say nothing; but it appears to me to stand rather in contradiction to certain other propositions laid down by Sir Charles, and formerly noticed in this work, viz. that the nerves are capable of exciting in the mind no other idea than that to which they are appropriate; that the organs of the senses are appropriated to particular classes of sensations, while the nerves intermediate between the brain and the organs are respectively capable of receiving no other sensations but such as are adapted to their particular organs; and that, when an individual is deprived of the organs of sight, no power of attention, or continued effort of the will, or *exercise of the other senses*, can make him enjoy the class of sensations which is lost.

† The very intelligent author of a *Memoir on the Vital Fluid* in the *Bibliotheque du Magnetisme Animal* (tom. ii. p. 26.), gives

I observed in a former chapter, that it is through the medium of the nerves that the vital principle

the following ingenious explanation of the means by which persons are enabled to see and hear during sleep.

"It has been observed," says he, "that, during sleep, the senses of sight and hearing, so alert in the waking state, are the most profoundly dormant; while, on the contrary, the organ of the skin (the cuticular organ), which, as we know, is the principal seat of the physical sensibility, is considerably more open to external impressions and influences, when asleep, than when awake. But what has not been suspected is, that this organ is the door by which we may communicate directly with the internal sense of man in the state of sleep, excite his intellectual faculties, and even direct his moral sense to the object we propose. Undoubtedly, this phenomenon appears a prodigy, but only to those who have not observed it, or who have reasoned ill on the subject. I can prove it. Is it not very common to make sleeping persons speak—to make them sometimes keep up pretty long conversations, and even tell their secrets? Certainly you then speak to them, and they answer; but in order that they may be able to answer you, it is necessary, I think, that they should hear you. Do they hear you by the ear, while, at that moment, the ear is asleep? If they heard by the ear, is it not clear that they could not be asleep? They cannot, then, hear you by the ear; and it is evident that they hear you by the only sense which is awake, that is, by the organ of the skin. In a state of sleep, man is not only capable of perceiving sounds by the organ of the skin: he is also capable of perceiving, in the same way, the rays of light; that is to say, he can see and distinguish objects through the medium of this same organ."

For proofs of the accuracy of this theory, the author refers us to the history of a somnambulist in the *Annales de Montpellier*, and to the works of M. de Puysegur.

The preceding theory seems to be corroborated by the following observations of Professor Kluge. He remarks, that the phenomena of the corporeal atmosphere in man are most con-

appears to be acted upon—that they are the sources of the animal affectability—that many eminent physicians and physiologists had found themselves compelled to assume the existence of a nervous fluid, as the vehicle of the influence in question—and that the existence of this fluid, if not actually demonstrated, had, at least, been rendered exceedingly probable by the researches of several celebrated experimental philosophers.

Now, the existence of this *nervous* or *vital* fluid lies at the bottom of almost all the theories of Animal Magnetism. Of Mesmer I have already spoken. The following are the fundamental opinions upon this subject of M. Tardy de Montravel, an early, practical, and most intelligent disciple of Magnetism.

There exists a fluid diffused throughout all nature, which is the principle of life and motion.

spicaiously manifested during sleep, when the activity of the cerebral system is diminished, and that of the ganglionic system, on the contrary, is increased. "In confirmation of this fact," says he, "I need not refer to the cases of sleep-walkers and magnetic somnambulists, but merely mention an experiment noticed by Wienholt, and several times repeated, and always with the same success, by myself. This experiment consists in approaching a sleeping person, and slowly moving the finger, a metal rod, or any other substance, repeatedly above the bare surface of the skin, at the distance of half an inch or an inch, without producing a current of air, when the sleeper will become restless, generally rub the affected part, and, if the experiment be longer continued, probably awake."—KLUEE, p. 267.

This fluid, in traversing bodies, modifies them, and is modified by them in its turn. When it circulates from one body to another with the same motion, these two bodies are in harmony with each other. It is by means of this fluid that our nerves receive sensations. Besides the external organs of the senses, man possesses an internal sense, of which the entire nervous system is the organ, and the principal seat is in the *plexus solaris*. This sixth sense is the principle of what we call instinct in animals. If, by any cause whatever, the external senses are deadened, and the internal organ of sensibility acquires more irritability, the latter alone performs the functions of all the others: it carries to the soul the most delicate impressions, and these impressions affect us in a lively manner, because our attention is no longer distracted by other objects. This is what takes place in somnambulism. With regard to previsions,* they are entirely the result of the combinations of the intellect, which reasons according to the impressions it experiences, as a watchmaker foresees the instant when a pendulum will stop—as an astronomer foresees the various motions which will take place in the heavens. In animals, instinct is purely mechanical: in man it is augmented by all the moral

* See the following Chapters.

faculties; and it is for this reason that it sometimes becomes the expression of conscience.

The knowledge which the somnambulist possesses of distant objects, is owing to this fluid, which conveys to him the impression of them, traversing all bodies, as light traverses glass.*

A theory similar to the preceding is adopted by M. Deleuze in his *Histoire critique du Magnetisme Animal*. Indeed, it appears, in one form or another, in the works of almost all writers upon the subject. The fluid in question is supposed to be analogous to electricity and galvanism. Both are thought to depend upon the same principle, and to have one common origin; and a very ingenious recent author has ascribed all the important phenomena of nature to the various combinations of this universal fluid with matter.†

I am perfectly aware, that, in the present state of gross ignorance upon the subject, it would be equally foolish and futile to enlarge upon any such theory as that now briefly touched upon, in this country. The facts themselves which have given birth to this theory, must first be more generally

* See *Essai sur la Theorie du Somnambulisme Magnetique*, and the other writings of M. Tardy de Montravel.

† See *Essai de Psychologie Physiologique*, par M. Chardel. Paris, 1831. Also Appendix, No. III.

studied, appreciated, and admitted, as upon the Continent, before we can expect that any great attention will be paid to the principles upon which they are capable of being explained.

CHAPTER XXII.

THE phenomena manifested in the magnetic somnambulism are, in almost all respects, analogous to those which occur in the natural or spontaneous. In the former, however, when the patient is very susceptible, or the operator possesses great magnetic power, the crisis can generally be rendered more perfect by the artificial means employed; and much better opportunities are thus afforded for making experiments, and observing the results.

Indeed, it is one of the many benefits conferred upon physiological science by the magnetic treatment, that it has not only completely demonstrated the possibility of producing this remarkable state of the human organism artificially, but likewise afforded us the means of more carefully and more minutely investigating its various and most interesting phenomena. Many of the professors of Animal Magnetism, it is true, seem to be of opinion, that the magnetic treatment is not altogether the primary and efficient, but only the secondary

and occasional, cause of somnambulism ; that is to say, that it merely tends to develope that affection in such constitutions as are otherwise predisposed to it. It is certain, however, that it has been so produced in a great variety of instances, and thus given rise to many interesting speculations, both with regard to the agency of the magnetic principle upon the human constitution in general, and to the nature and extraordinary phenomena of that peculiar state of the organism ; speculations which, if divested of all mysticism, and conducted in the sober spirit of philosophical investigation, cannot ultimately fail to improve and extend our physiological and psychological knowledge.

The cases of the magnetic somnambulism have become exceedingly numerous, since the more general introduction of that mode of treatment upon the Continent ; so numerous, indeed, that it is quite unnecessary, and would be intolerably tedious, to give any full and particular detail of them. The character of the phenomena, too, is so similar in all of them, that, after enumerating a few of the most remarkable, little additional instruction could be derived, so far, at least, as the nature of the affection is concerned, from the very few specialties which may be found to occur in individual instances. I shall therefore merely advert to some of the more remarkable features of this very extra-

ordinary organic state, referring those who may feel desirous of obtaining more ample information upon the subject to the various publications enumerated in this work.

The phenomena I am now about to bring under the particular notice of the reader, may be arranged into four classes :

1. The faculty possessed by almost all Somnambulists of seeing through intervening opaque bodies ;

2. The faculty manifested by some somnambulistic patients of seeing the interior of their own bodies and that of other persons, of pointing out the nature and seat of diseased structure, and of prescribing appropriate remedies. This has been called the faculty of *Intuition*.

3. The faculty of seeing objects at a distance ; and,

4. The faculty of foreseeing future events ; which last has been denominated the faculty of *Prevision*.

All of these phenomena, it will be observed, are comprehended under the fifth and sixth degrees into which, as Professor Kluge remarks, patients have been found to pass during the magnetic treatment.*

With regard to these phenomena, the Committee

* See page 281, &c. The evidence adduced in the Appendix to the former edition of this publication, relative to the transfer-

of the Royal Academy of Medicine at Paris observe, in their late Report : " We have seen two somnambulists who distinguished, with their eyes closed, the objects which were placed before them ; they mentioned the colour and the value of cards, without touching them ; they read words traced with the hand, as also some lines of books opened at random. This phenomenon took place even when the eye-lids were kept exactly closed with the fingers.

" In two somnambulists we recognized the faculty of foreseeing the acts of the organism more or less remote, more or less complicated. One of them announced repeatedly, several months previously, the day, the hour, and the minute of the access and of the return of epileptic fits. The other announced the period of his cure. Their previsions were realized with remarkable exactness. They appeared to us to apply only to acts or injuries of their organism.

ence of sensation in certain cases of Catalepsy and Somnambulism, belongs to this branch of the subject ; and I have therefore caused the paper to be reprinted at the end of this work. (See Appendix, No. II.) To that evidence I have never heard any reasonable objection stated ; on the contrary, several persons, previously sceptics, have since expressed to me their conviction of the truth of the fact—a fact which is, moreover, confirmed by almost every case of the natural as well as of the magnetic somnambulism.

" We found only a single somnambulist who pointed out the symptoms of the diseases of three persons with whom she was placed in magnetic connexion. We had, however, made experiments upon a considerable number."*

At one time, I proposed to bring these different phenomena separately under the notice of my readers ; but I soon found that this method would necessarily be attended with a great deal of labour and inconvenience, and with no little confusion. There is scarcely a single patient, in the higher magnetic state, who does not manifest several, if not all, of these phenomena, at different stages of the treatment. By taking them up singly, therefore, I should have exposed myself to much trouble in repeatedly going back to each individual case ; besides diminishing the interest which might otherwise be felt by the reader in attending to an entire and unbroken narrative. For these reasons, I shall bring each case which I propose to adduce, with all its remarkable phenomena, fully under the notice of the reader, *seriatim* ; beginning with the

* With praiseworthy candour and caution, these French Academicians notice only such phenomena as fell under their own observation, while engaged in the investigation entrusted to them. I trust, however, that I shall be able to demonstrate the reality of the other facts alluded to, by the testimony of equally competent and credible witnesses.

more simple, and advancing to the more complicated.

But before I proceed to the details of these very remarkable cases, I am anxious, in consequence of the little attention which has been recently paid to the subject, to shew that I am supported by common opinion, as well as by many competent general authorities and authenticated facts, independently of magnetism, in my views of the question under discussion. For this purpose, I might refer at some length to the writings of Plato, Hippocrates, Aretæus, Galen, &c. who held as true, or, at least, as probable, many of those phenomena which have been experimentally demonstrated by the modern magnetizers—thus verifying the adage, that “there is nothing new but what has been forgotten.” But my authorities are abundant and unambiguous; and I would avoid being thought pedantic and tedious.

Ammianus Marcellinus, in defending the sybils and others, thus answers the objections made to their predictions : “ What signifies these murmurs of ignorant people ? If there were any such thing, say they, as a knowledge of the future, why was this person ignorant that he should be overcome in war ? Why did not that other person foresee that such and such an accident would happen to him ? Excellent reasoning ! As if, because a certain

grammarian had committed a solecism in language—a certain musician had produced a discord—a certain physician had been ignorant of a particular remedy ; as if from these circumstances we were entitled to conclude that there are no such things as grammar, music, or medicine.”*

Athenagoras—who was first a Platonic philosopher, and afterwards embraced Christianity—in his apology for the Christians, considers the soul as capable of itself, and by its own powers, *of predicting future events, and of curing diseases*, and that these powers were improperly ascribed to demons. His words are :† *Et cum suapte vi ac ratione, anima, utpote immortalis, plerumque moveatur et agat in homine, ita ut futura prædicat, et rerum præsentium statum dirigat, aut amendet* (the Greek word is *θεατικη*)

* Ammian. Marcell. p. 180, No. 5. (Lib. xxi.)

† Athenagoras, *Gesnero Interprete*.

Kluge observes, that this phenomenon manifested by somnambulists gave great offence to many physicians, who thought it an impertinent interference with their learning and dignity, that the patient should pretend to know more than the Doctor. The Professor, however, reminds these gentlemen, that the objection is founded upon a total mistake of their peculiar duties. ‘The business of the physician never was any thing more than curative (*curare*) ; the healing power (*medori*) resided in Nature herself, whose servants and subordinates they ought always to be. In short, it is the sole duty of the physician to endeavour to place the diseased organism in such a state as to allow Nature to restore it to health.

—cures), *hujus sapientiae laudem dæmones sibi luxuriantur.*

St Justin, who lived nearly about the same time with Athenagoras, remarks, that the Sybils, in uttering their predictions, however true, did not themselves understand what they said, and that, as soon as the instinct which animated them was extinguished, *they lost all recollection of what they had predicted* :—*Sed in ipso afflatus tempore sortes illa suas explebat, et evanescente instinctu ipso, simul quoque dictorum memoria evanuit.** This is precisely what takes place in somnambulism.

The Druid priests were also physicians. Cicero says of them :—There are Druids in Gaul, among whom I knew Divitiacus of Autun, who pretended to have a knowledge of natural things, which the Greeks call *Physiology*, and who said that, partly by the science of augury, and partly by conjecture, they foresaw future events.† Pliny describes the Druids as “ that kind of prophets and physicians” —*hoc genus vatum medicorumque.*‡

Montanus the heretic prophesied. He appears to have been in a state of habitual crisis. He had two women along with him, Prisca and Maximilla, *who fell into ecstasies, and predicted future events* ;

* Justin, *Admonitorium ad Graecos.*

† *De Divinatione*, L. 1. § 41, No. 89.

‡ *Hist. Nat.* L. 30, c. 1.

but, like all somnambulists, recollect nothing of what they had said when in their ordinary state. Tertullian speaks of one of these prophetesses, who, in her crises, amongst other things, prophesied, and prescribed remedies for diseases.*

Jamblichus, in his work *De Mysteriis*, speaks of the phenomena of the ecstatic crisis, which he appears to have perfectly well known. Those who are thus affected, he observes, neither make use of their senses, nor are so awake as those who have waking senses. The soul, he says, has a twofold life, the one along with the body, the other separable from every thing corporeal. When awake, we chiefly make use of the life which is common to the body; but in sleeping, the soul may be entirely released from its chains, and make use of the incorporeal life. In this state, he recognizes, amongst others, the phenomenon of prevision, or foreknowledge.†

Johnston, in his *Thaumatographia naturalis*, when treating of hysterical diseases, observes, that those who are affected with them experience convulsions, palpitations, epileptic fits; they become deprived of sight, their voice utters an extraordinary sound;

* St Hieron. *Proem. ad Isaiam.*

† See Jamblichus, *De Mysteriis*, in cap. De Somniis.—See also Rob. Fludd, *Hist. Microcosm.* Tract. i. sect. 2, part. i. l. 3. c. 1.

sometimes they avoid the light, and seek the obscurity of the tombs ; at other times, *they speak unknown languages, and predict future events.**

Many authors have noticed this last mentioned phenomenon of speaking a language unknown to the individual in his ordinary state ; and it will very frequently be found coupled with the prophetic faculty, as arising out of the same or similar conditions. Among these authors, passing over the ancients, I may mention Pomponatius, Lemnius, Gainerius, Ficinus, Forestus, &c. Pomponatius, (*Lib. de Incant. c. 4.*) refers to the story of the wife of Francis Magresi, who, in an access of melancholy, spoke in various languages, and, when cured by medical treatment, lost all knowledge of these tongues. The author of the *Chiliads* (*in Declam. pro Laudibus Medic.*) mentions the case of an Italian, who, in a fit of mental aberration, (*novo ex vernibus fu-*

* " Solet interdum in virginibus retentum semen putrescere in utero, deleteriam acquirere vim, et mirifica excitare symptoma. Vapor enim malignus suscitatus, intestina, ventriculum, hepar ad diaphragma comprimit, cordis palpitatio, cardialgia, vertigo et pallor oboritur. Alias subito mulier prosternitur, respiratione, loquela, visu privatur. Epilepsia, convulsione et deliriis interdum infestatur. Exaudiuntur interdum ex imis visceribus miræ voces. His positis, diversa et mirabilia in diversis etiam linguis proferri : Nocturnos discursus, et circa mortuorum sepulchra, latebras quæri."—J. JOHNSTON, *Thaumat. nat.* Amst. 1633.

" Aliquando solent tales homines linguis peregrinis loqui, et futura prædicere."

roris genere correptus), spoke good German, a language previously unknown to him when in health, and which he again forgot when cured of his disease. Gainerius relates several instances of persons, male and female, who spoke languages which they had not previously known.*

Lemnius (Lib. ii. *De Occult. Naturæ Mirac.* c. 2.) observes, that, in acute fevers, persons have been known to discourse, copiously and fluently, in an elegant and elaborate dialect, which they were incapable of using when in health; and he ascribes this phenomenon, not, as was usual in his time, to demoniacal possession, but to the influence of the disease. The same thing is frequently found to occur in the ecstatic somnambulism.

Morhof (in his *Polyhist. Litter.* lib. iv. c. 4. § 2.), quotes from Fulgosus the case of an Italian labouring under the plague, and thought to be at the point of death, who, suddenly rallying, sent for his master, and told him that he had really been in heaven, and had learned who and how many persons belonging to the house would die of the plague; and having named them, he affirmed that his master would survive. And in order that his words might obtain credit, he shewed that he understood all languages, spoke Greek with his master, and attempted other dialects with those who

* *Ex Gentile in Quest. de Incantatione.*

knew them, although he had previously only learned Italian ; and having lived two days in this state, he died, and was followed by those he had named, his master surviving.

The same author also quotes from La Motte le Vayer the case of a Frenchman, Le Fevre, who, in his sleep, when interrogated in any language, could answer in the same, although, besides French, he had only an imperfect knowledge of Italian and Spanish. He predicted that a certain person should die a violent death, and the individual subsequently perished in a duel. When awake, he seemed to be asleep, for he had always something obtuse and stupid about him ; while, when asleep, he exhibited much more alacrity and vigilance. In his waking state, he recollects nothing of what had occurred during his sleep, except that, from intense headache, he judged that he had been much harassed with questions and answers. This case, which seems to have extremely puzzled the observers, was evidently one of the natural or spontaneous somnambulism ; and the symptoms appear to have been precisely analogous to those which have been found to occur in other instances of the same affection.

Many other curious instances of these phenomena, accompanied with learned and ingenious attempts to explain them, may be found in Valesius, Huarte,

Senectus, &c. The facts themselves were pretty notorious, but the theoretical explanations, from the want of any adequate inductive investigation, were almost always unsatisfactory.

Charon, in his *Traité de la Sagesse* (L. i. ch. 15, No. 11), remarks, that melancholy, maniacal, frenetic persons, and those affected with certain diseases, which Hippocrates calls sacred (*morbus sacer*), speak Latin without having learnt it, compose verses, converse sensibly and wisely, *discover hidden things, and predict future events* (which foolish and ignorant persons ascribe to the devil, or to a familiar spirit), although they were previously idiots and rustics, and again become so after their cure.

Valesius (*De Sacra Philosoph.* cap. 30), observes, that whatever renders the mind free from external cares, naturally disposes it for divine contemplation, and for prophecy; and that this disposition probably becomes more efficacious in certain diseases, or in consequence of a great prostration of bodily strength, as in dying persons. For it is certain, says he, that, in proportion as the strength of the body and the weight of the flesh are diminished, the powers of the mind become more energetic and more perfect.

Maupertuis not only believed in the possibility of a faculty of prevision, but he has even attempted

to explain it as something quite natural. In a passage of one of his works, there occur the following observations :—“ It would appear that the perceptions of the past, the present, and the future, only differ in the degree of the soul’s activity. Oppressed by the consequence of its perceptions, it perceives the past ; its ordinary state shews it the present ; a state more exalted would, perhaps, render it capable of discovering the future ; and this, perhaps, would not be so wonderful, as to find it representing to itself things that do not exist, never existed, and never will exist. We have need of all our experience to prevent us from giving credit to our dreams. If we examine philosophically the systems to which we must have recourse, in order to explain how we perceive objects, perhaps all that we have just said will no longer appear so strange, as it may have done at first. If there be no real relation between the objects and that spiritual essence which perceives them ; if our perceptions have their proper cause in the soul, and have no relation to the objects but by concomitance, or by a pre-established harmony ; or if the objects are only the occasional causes of that manifestation which God wished the soul to have of a substance where all the archetypes of it are to be found : the perception of the past, and that of the future, will be no more difficult to comprehend than that of the present.”

Sir Henry Halford, in an interesting essay on the *Kavos*—brain fever—of Aretaeus, has the following remarkable passage in relation to this subject :

“ The author, Aretaeus, states that the first effect of the subsidence of the violent excitement is, *that the patient's mind becomes clear, that all his sensations are now exquisitely keen; that he is the first person to discover that he is about to die, and announces this to his attendants; that he seems to hold converse with the spirits of those who have departed before him, as if they stood in his presence; and that his soul acquires a prophetic power.* The author, with all the appearance of being himself convinced that this power has really been acquired by the patient in the last hours of his life, remarks that the bye-standers fancy him to be rambling and talking nonsense, but that they are afterwards astounded at the coming to pass of the events which had been predicted. Indeed, he attempts to account for it by supposing that the soul, whilst ‘ shuffling off this mortal coil,’ whilst disengaging itself from the incumbrances of the body, becomes purer, more essential, entirely spiritual, as if it had already commenced its new existence.

“ To me, I own,” continues Sir Henry, “ it does not seem necessary to ascribe to persons under such circumstances a supernatural power. We have all observed the mind clear up in an extraordinary

manner in the last hours of life, when terminated even in the ordinary course of nature, but certainly still more remarkably when it has been cut short by disease, which had affected, for a time, the intellectual faculties. We have seen it become capable of exercising a subtle judgment, when the passions which had been accustomed to bias and embarrass its decisions whilst they existed, were extinguished at the approach of death ; when the inferences which wisdom had drawn from the former behaviour of men were now made available to a correct estimate of their future conduct, in the sense of Milton's lines :

‘ When old experience does attain
‘ To something like prophetic strain.’

“ An illustration of this argument may be read in the beautiful valedictory address of the elder Cyrus to his two sons and his friends assembled round his death-bed to receive his last instructions. The speech, full of good sense, of truth, and of practical wisdom, is not less worthy of the favourite disciple of Socrates, who records it, than of the great king, who having been predicted by name, some centuries before he existed, as the instrument hereafter to accomplish the will of Providence, imparted these results of his experience at the close of his illustrious life.

“ Nevertheless, that a prophetic power did at-

tend man's last hour generally was a notion entertained of old, and has been transmitted down to us from the earliest records of mankind. We read in the Pentateuch, that, "when Jacob had made an end of commanding his sons" (or, in other words, not less faithful to the original, nor to the version of the Septuagint, 'when Jacob had finished imparting his solemn injunctions to his sons'), he drew up his feet into the bed, and yielded up the ghost." Now, with these solemn injunctions were mixed up much prophetic matter, many predictions of their future fate and fortunes: as, for instance,—'the sceptre shall not depart from Judah, nor a lawgiver from between his feet, until Shiloh come, and to him shall the gathering of the people be.'

" And although the account here given by Moses is, as I believe it to be, in the language of inspiration, and must not therefore be humiliated by being compared even with this sublime account of an important disease, given by a physician for the information of his profession, and the good of mankind; yet we must allow it to be remarkable, that the Almighty should be pleased to choose the dying hour of the Patriarch in which to inspire him with a foreknowledge of his gracious purpose to send the Messiah into the world for the redemption of mankind; nor will it seem extravagant to sup-

pose that this most interesting prediction, at the close of Jacob's life, might be the very foundation on which the popular notion (that dying persons were gifted with the power of prophecy—a notion which prevailed through so many successive ages afterwards) was built. The pride of human nature easily disposes it to appropriate to itself extraordinary power; and that which was peculiarly vouchsafed to the sanctity of the Patriarch and Prophets of God may have been assumed to be the privilege of mankind universally in the hour of death.

"That the fame of the Patriarch's prophecy, and those of Isaiah at a much later period, was not confined to the limits of the country in which they were first promulgated, we are very sure; that they were extended, in process of time, by the venerated authority of the Sibylline leaves (which we have good reason to believe were a collection of prophecies), over the whole extent of the Roman empire, is probable, and that their fulfilment was expected the more intensely as the time of their accomplishment drew near, we may assume, as a fair inference, from the Pollio of Virgil, who makes use of the very same beautiful imagery in depicting the advantages to follow the expected birth of his august personage, as Isaiah had employed to describe the happy consequences of the advent of

the Messenger of mercy to mankind. What wonder, then, if the philosophers, both Grecian and Roman, if the poets (who may be considered as historians of popular notions) concurred in transmitting down this accredited opinion? Cicero, a most accomplished philosopher as well as orator, himself an augur too, and therefore probably well acquainted with the contents of the Sibylline leaves, (for they were committed to the safe custody of the College of Augurs), in his first book on Divination, gives a story of the prediction of the death of Alexander the Great, by an Indian about to die on the funeral-pile. His words are: ‘There are certainly some traces of presentiment and divination even among barbarous nations; as Calanus, the Indian, proceeding to death, when he ascended the burning pile, exclaimed: O excellent departure from life! when, as happened to Hercules, the soul shall ascend into light from the ashes of the mortal body. And when Alexander asked him whether he wished to say any thing more, he answered: It is well—I shall see you soon. In fact, in the course of a few days afterwards, Alexander died at Babylon.’*

* A somewhat analogous and very singular story is told by the late Mr M. G. Lewis, in his *Journal of a West India Proprietor*. The story relates to Plato—not the celebrated philosopher of that name, but—the runaway negro, and captain of a troop of banditti in Jamaica—a man of daring courage, and a

"As to the poets, Homer transmits this popular notion—Sophocles adopts it—Virgil copies Homer—and our own Shakspeare records it in various passages."

professor of Obi, or the Indian magic. This man was, at length, apprehended and executed. "He died," says Mr Lewis, "most heroically; kept up the terror of his imposture to the last moment; told the magistrates who condemned him, that his death would be revenged by a storm which would lay waste the whole island that year; and when his negro jailor was binding him to the stake at which he was destined to suffer, he assured him that he should not live long to triumph in his death, for that he had taken good care to *Obea* him before his quitting the prison. It certainly did happen," continues Mr Lewis, "strangely enough, that before the year was over, the most violent storm took place ever known in Jamaica; and as to the jailor, his imagination," as Mr Lewis has it, "was so forcibly struck by the threats of the dying man, that, although every care was taken of him, the power of medicine exhausted, and even a voyage to America undertaken, in hopes that a change of scene might change the course of his ideas, still, from the moment of Plato's death, he gradually pined and withered away, and finally expired before the completion of the twelvemonth."

Urban Grandier predicted the death of one of his persecutors, Father Lactantius, within a month of his own, and the prediction was verified. A similar story is told of Molay, grand master of the order of Templars, in respect to King Philip of France and Pope Clement V.

CHAPTER XXIII.

At the conclusion of the preceding chapter, I took the liberty of making a pretty long quotation from an elegant treatise by Sir Henry Halford, in order to make the reader fully aware of the universality of the belief, prevalent from the most remote times, in the exercise of prophetic powers under certain organic conditions ; a belief which, however occasionally associated with prejudice, superstition, and error, assuredly was not entirely destitute of a natural foundation. Sir Henry's own opinion on the subject is not very clearly or decidedly expressed ; but, perhaps, like many other learned and intelligent individuals, his attention had not been attracted to the evidence by which the belief in question is supported. I shall now proceed to adduce my other authorities for the fact.

The following passages, which are well worthy of attention, are extracted from a learned treatise written by the celebrated Dr Frederick Hoffmann,

physician to the king of Prussia—entitled, *De optima Philosophandi ratione.*

“ In what manner the soul confined by the chains of the body may be disturbed in its actions, has not hitherto been satisfactorily ascertained; but is still a moot point in philosophy. In my opinion, it appears very probable, that the intellect, originally pure, luminous, and inorganic, infused by the Almighty into a living body at its first creation, has a connexion and commerce with a *very subtle ethereal fluid*, which is separated from the blood and lymph in the minute fabric of the brain, and that the purer this fluid is, the functions of the mind are performed with so much the more alacrity ; whilst, on the contrary, the more impure it is, and the more it is imbued with sulphurous, vaporous, and terrestrial particles, men are found to be more dull and stupid.”*

“ From what has been said, too, we may find the

* *Quomodo autem anima corporis vinculis inherens in actionibus suis turbari possit, nondum satis evictum, sed adhuc sub philosophis licet est. Meam quod attinet sententiam, ea mihi videtur vero similia, quod intellectus insitus, purus, luminosus, originaliter inorganicus, a Deo in prima creatione corpori vivo infusus, cum subtilissimo aethereo fluido, quod in cerebri fabrica tenuissima a sanguine et lympha separatur, habeat vinculum et commercium, quod fluidum, quo purius est, eo alacrius functiones sunt animi, quo vero impurius, et quo magis multis particulis sulphureis, vaporosis, et terrestribus imbutum est, eo hebetiores et obtusi homines inveniuntur.*

reason why those individuals who are weak in body, who take little food and drink, and rather indulge in fasting, have a much readier and purer power of intellect; which we have not unfrequently observed, especially in pious persons, upon the near approach of death. For they, returning to themselves during a period of quiet, speak of the wonderful joys they experience, and glory in the society of God and the angels; which joy and alacrity of the dying, Cicero (*De Consolat.*) ascribes to the gods, when he says that we ought not to despair of the benignity of the gods, since they soothe and lighten the minds of those departing from life. Undoubted signs of this are very frequently observed in the dying, when, as if roused from sleep, at the time they are in extremities, they appear so sprightly and joyful, that we might imagine they departed this life with the greatest pleasure."*

* Ex his quoque adductis repetenda erit ratio, quod iis hominibus, quorum corpora infirma, parum cibis et potu onerantur, magisque jejuniis indulgent, longe promptior et purior intelligendi vis insit; quod etiam in morti proximis, praesertim piis, non raro observamus. Hi enim ad tempus quieti ad se redeunt, mira enarrant gaudia, et de Dei angelorumque consortio gloriantur; quam morientium laetitiam et alacritatem Cicero (*De Consolat.*) diis ascribit: cum ait: non desperandum de deorum benignitate, quin eo tempore e vita properantem discedere foveant atque allevent. Cujus rei in morientibus signa sepiissime minime dubia cernuntur, cum velut e somno exciti, quo tempore extrellum spiritum edituri sunt, ita gaudentes et alacres adspiciunt, ut libertissime e vita judices proficiunt.

“ Daily experience teaches us that, during sleep, the body is at rest, and the mind is not distracted by external objects: hence, therefore, the latter can more readily and more successfully execute its operations. In dreaming, it not unfrequently happens that *many things become to us clear and exposed which were previously concealed, things long forgotten occur to the memory, and powers which nature often seemed to have denied to us, are developed during sleep, when the mind is re-instated in its rights.* Thus, it has frequently happened to myself, who possess no natural genius for poetry, to have composed and recited very elegant Latin verses, in proper order and series, of which I could still remember some when awake. *And who is so ignorant of sacred literature as not to know, that God has revealed the most important matters in dreams, for no other reason than that the mind, during sleep, is more attentive, and more capable of apprehending those things which are revealed.*

“ SCHOLION.

“ The most ancient Father of physicians, Hippocrates, already in his time diligently noted this in his book *De Insomniis*, where he says, near the commencement: When the body is awake, the thinking faculty of the mind is not in complete possession of its powers, but distributes some part of them to the different parts of the body, or the

senses—of hearing, sight, touch, muscular action—and to all the corporeal faculties. . *But when the body is at rest, the soul is in motion, and pervading every part of the body, governs its household, and, of itself, performs all the actions of the body. For the body, when asleep, perceives nothing ; while the soul, still awake, knows, sees, hears, moves about, touches, manifests joy or sorrow, &c. In fine, all the corporeal and intellectual offices are executed by the soul during sleep.* And Cicero (*De Divinat.* lib. i.) says : *When the mind is separated by sleep from the society and contagion of the body, it then remembers the past, perceives the present, and foresees the future.* For the body of a sleeper lies like that of one dead, but the mind lives and is vigorous. How much more so after death, when it shall have altogether separated from the body ! For this reason, upon the approach of death, it becomes much more capable of divination.*

* Tandem experientia constat quotidiana, in somno corpus in quiete esse, neque animum ab objectis externis distrahi : hinc etiam operationes suas felicius et promptius exsequi potest. In insomniis haud raro multa nobis clara fiunt et detecta, quæ antea nobis fuere abscondita, diu oblita in memoriam veniunt, et quicquid saepe natura denegasse videtur, id anima in somno, sui juris redditâ, præstat. Sic saepe mihi, cui nullum unquam a natura datum est ingenium poeticum, aliquoties obtigit, ut elegantissimos latinos versus concinno ordine et serie conficerim et recitaverim, quorum aliquot vigilans de somno adhuc recensere potui. Et quis in sacris litteris tam hospes est qui nesciat, Deum in insomniis maxima revelasse : non aliam ob causam,

"And who has not observed that sick persons, especially hysterical females, of whom I have seen several, attacked with cataleptic and ecstatic affections, either during or after the paroxysm, *have predicted future events, and have spoken in languages which they themselves had never learnt*, although their parents knew them."†

quam quia mens tunc sit attentior ad ea capienda, quæ revealantur.

SCHOLION.

Antiquissimus medicorum parens, HIPPOCRATES, id suo jam tempore observavit sollertissime in lib. *de Insomniis*, ubi inter initia scribit: Corpus cum vigilat, animæ cogitatio non sui juris est, sed partem aliquam singuli corporis partibus, sive sensibus, distribuit, auditui, visui, tactui, gressui, actioni ac omni corporis facultati. Cum autem corpus quiescit, anima in motu est, et corporis partes perpetuans, domum suam gubernat, et omnes corporis actiones ipsa perficit. Nam corpus dormiens non sentit, ipsa vero vigilans cognoscit, ac visibilia videt, et audibilia audit, vadit, tangit, tristatur, animadvertisit. In summa, quaecunque corporis aut animæ munia, ea omnia anima ipso in somno obicit.—Et CICERO, *De Divinat.* lib. i. Cum somno sevocatus, sit, animus a societate et contagione corporis, tum meminit praeteritorum, praesentia cernit, futura prævidet. Jacet enim corpus dormientis ut mortui, viget autem et vivit animus, quod multo magis faciet post mortem, cum omnino e corpore excederit; itaque appropinquante morte multo est divinior.

†. Et quem fugit ægrotantes, imprimis mulieres hystericas, quas plures vidi, affectione cataleptica, quam pro ecstasi habuerint, tentatas, praesente paroxysmo aut finito, futura prædictisse, et linguis, quas ipse nunquam, parentes vero, didicerunt, locutas.

The celebrated Chevalier Folard, who, in his old age, became exceedingly devout, frequently fell into paroxysms of ecstasy. Upon these occasions, he suddenly fell down, and became mo-

The same distinguished physician farther observes, in the same treatise, that cachetic or phthysical patients, when their bodily strength is exhausted, often exhibit a much greater and truly wonderful alacrity in explaining divine things, than when in health ; and that in valetudinary and infirm persons of more advanced age, the corporeal powers—the memory and the imagination—decrease, while the vigour of the intellect and the judgment is augmented. This, it will be observed, is coincident with the opinion of Valesius, formerly quoted.

tionless ; afterwards he sung, then wept, and, at length, suddenly began to speak in monosyllables—a sort of jargon which some took to be Slavonic, but which nobody could understand. When his eyes were open he declared that he could see nothing, but was in total darkness ; when they were shut, he said he was surrounded by brilliant light, and in a most agreeable state. At these times he is also said to have prophesied.—See a curious work, entitled, *Histoire d'un Voyage Litteraire fait en 1733* ; also the *Biblioth. du Magnetisme Animal*, for December 1818.

The author of the foregoing narrative notices a parallel case, mentioned in Jurien's *Pastoral Letters*, of Isabella Vincent, a shepherdess, between sixteen and seventeen years of age, who fell into fits of ecstasy, which resembled a profound sleep, out of which it was impossible to awaken her. She was entirely deprived of sensibility. In her accesses, she spoke and said most extraordinary things, although she could neither read nor write. Her voice was clear and distinct ; and she had no violent or convulsive motions. She prophesied future events, and promised a speedy deliverance to the persecuted church. When the paroxysm was over, she recollect ed nothing of what had occurred, or what she had said.

The opinions of a philosophical physician of such eminence as Dr Frederick Hoffmann upon a subject of this nature, originating in a sound, discriminating judgment, and founded upon an extensive practical experience, I should be disposed to consider as of very great value. Nor do I attach less importance to those of another professional gentleman, well known and esteemed in the scientific world, whom I believe to have been, in his day, perhaps the most learned physician in Europe, and who, moreover, had the advantage of being intimately acquainted with the discoveries of Animal Magnetism : I allude to the late Dr Sprengel. This very learned individual published many excellent works upon medical and other scientific subjects ; amongst others, one in five volumes, entitled the *Institutions of Medicine* ; from the second volume of which I shall take the liberty of making one or two quotations, which are exceedingly applicable to the subject I am now discussing. The work is written in Latin ; but it is easily accessible ; and I shall translate those passages to which I wish to call the attention of the reader.

Speaking of the magnetic Somnambulist, Dr Sprengel observes (p. 303), “ Hence also that instinct revives, by means of which *the patient acquires a knowledge of his own state of health, and of*

that of any other person who is placed en rapport with him—and is also enabled to predict the duration of the crisis and its termination, and to prescribe the appropriate remedies. These remedies are generally vulgar and domestic, when recommended by the rustic ; or officinal preparations, when prescribed by the better educated man. They are frequently such as a physician would scarcely think of prescribing—such as culinary salt, a pepper-bath, &c. —but in most cases they do good, and Dr Wienholt does not recollect a single instance in which they were administered without beneficial effects.”

In another passage (p. 305), the learned Doctor admits that “*the Somnambulists predict the crisis of their complaints, and determine their duration and end.* I have myself,” says he, “seen a young man, a relation of my own, who had never been treated in this artificial manner,” viz. by Magnetism—who was therefore, I presume, a natural Somnambulist —“*who, in the very crises themselves, predicted, with the utmost certainty, the repetitions of the accesses, prescribed the appropriate remedies, and foretold the period when the disease should terminate.*”*

* Dr Descottes, in the year 1760, attended, at Argenton, two young hysterical women, who were much attached to each other, and who knew each other’s situation, although living separately in distant houses ; and who, moreover, always predicted their own state of health, and that of the other, three or four days in advance. (See Fr. Brossier de Sauvages, *Nosologia Methodica*,

The volume from which I have quoted appears to have been published so long ago as the year 1810, since which period, the facts to which the learned Doctor alludes have been abundantly confirmed and elucidated by a variety of additional instances. I may add, however, that the testimony of Dr Sprengel in favour of the authenticity of these facts is so much the more valuable, because, like most other learned men, he was originally an opponent of Animal Magnetism, and wrote against

t. iii p. i. p. 398, &c.) Iung-Stilling mentions a similar case (*Theorie d. Geisterkunde*, p. 151); and Wienholt notices two cases of a like description (*Heilkrit. d. Thierisch. Magnet.* vol. iii. Abth. 2, u. 3).

According to the Romish ritual, the speaking various strange and unknown languages, and giving proper answers in each language, is an undoubted mark of possession; as also, having an insight into what is transacted in distant countries, and a faculty of discovering secrets, without any means of information from without. These circumstances, then, must have been known to have occasionally occurred, however erroneous and absurd the cause to which they were ascribed.

To the opinions already noticed, in regard to the possibility of the occasional manifestation of a prophetic faculty, I may add that of the late Mr Coleridge. "It is impossible," says he, "to say whether an inner sense does not really exist in the mind, seldom developed, indeed, but which may have a power of presentiment. All the external senses have their correspondents in the mind; the eye can see an object before it is distinctly apprehended;—why may there not be a corresponding power in the soul? The power of prophecy might have been merely a spiritual excitation of this dormant faculty."—*Table-Talk*, vol. i. pp. 36, 37.

its doctrines and treatment;—until he appears, at length, to have satisfied himself of their truth and utility by investigation, observation, and experiment, when he manfully threw off his previous prejudices. But I am not aware that he ever was a professed practical magnetizer, or that he looked upon the subject in any other light than as a matter of science.

Dr Brandis, physician to the King of Denmark at Copenhagen, a gentleman of great professional eminence, and who, by those who are acquainted with him or his writings, will not be accused of an enthusiastic or undue bias towards the doctrine of Animal Magnetism, since he declares himself disposed to view, with the utmost suspicion and scepticism, every phenomenon which has not fallen under his own observation—Dr Brandis, I say, amply and unequivocally confirms this fact of the prevision of somnambulists. “The magnetised person,” says he, “predicts most exactly the progress of his disease, and especially the individual incidents—attacks of convulsions, syncope, evacuations, &c.—with all their concomitant circumstances; and, with the same precision, he points out the period of his cure. I confess,” continues the Doctor, “that the exactness with which all such predictions of four *clairvoyantes*, whom I myself have

hitherto had an opportunity of observing, were verified, greatly astonished me.” *

The celebrated French physiologist Dr Georget has, upon various occasions, and in the most decided manner, recorded his perfect conviction, founded upon experience, of all the remarkable facts of Animal Magnetism. “ During forty years,” says he—now more than half a century—“ magnetism has been studied, practised, propagated in France, and in a great part of Europe, by a multitude of enlightened and disinterested men, who proclaim its truth in defiance of all the ridicule with which it is vainly attempted to overwhelm them. It is a very astonishing thing, that Animal Magnetism is not even known by name among the ignorant classes: it is among the enlightened ranks that it finds support. It is men who have received some education who have taken its cause in hand: it is partly learned men, naturalists, physicians, philosophers, who have composed the numerous volumes in which the facts are accumulated which may now be adduced in its favour.”

In another passage, the same enlightened physician pronounces the following peremptory opinion in regard to the utility of the magnetic practice: “ I believe that no perfect medicine can exist but that of the somnambulists in every thing which

* BRANDIS, p. 102.

concerns themselves; and that it is possible to derive advantage from their admirable instinct in the case of other patients."

But it is not only in the works of the advocates of Animal Magnetism, or of the candid and independent inquirer, that we may look for an approval of its principal doctrines, and a confirmation of its more remarkable facts. Even the writings of its professed opponents supply us with abundant testimony in its favour; insomuch, that it is often exceedingly difficult to discover to what particular points their opposition is directed. Their controversial tactics resemble those eccentric operations in actual warfare, which are generally a great deal more showy than effective, and are never of any real advantage against an antagonist who cautiously keeps his forces concentrated, and stands firmly prepared to resist every assault. They may send up a few brilliant but harmless rockets into the air, amidst the obscurity previously produced by their own artificial contrivances; but when these have once exploded, and the atmosphere has again become clear, no actual injury is found to have been inflicted, and the relative situation of the combatants continues the same as before.*

* I am not in the habit of regularly perusing all the Reviews which are published in this country, and consequently, it is possible that the opinions which some of them may have been

In the following chapter, I shall produce some instances of the inconsistency of the opponents of Animal Magnetism, in attempting to deny the reality of facts which they either directly or indirectly, admit.—*Fas est ab hoste doceri.*

pleased to express on the subject of Animal Magnetism may have escaped my notice. This I can hardly regret, as those I have happened to see have appeared to me to be the pure offspring of ignorance and prejudice. I understand that a *critique* of the former edition of this work appeared some time ago in one of the numbers of the Foreign Quarterly Review. I have not myself seen the article, but the sample I have received of its logic has not tempted me to take the trouble of looking into it. The reviewer, I am informed by a friend, attempts to refute the truth of Animal Magnetism by means of the following *Sorites*: *What is believed in by quacks is quackery; Gall, Spurzheim, and Hahnemann are believers in Animal Magnetism; but Gall, Spurzheim, and Hahnemann are quacks; ergo Animal Magnetism is quackery.*

Now, without objecting that as neither I nor any other writer on the subject have ever alleged the authority of any of these gentlemen in favour of Animal Magnetism, it is surely incompetent to discredit that doctrine by an attempt to discredit a testimony on which it was never sought to be established; without objecting, also, that their quackery cannot be reasonably assumed upon the *ipse dixit* of an individual, who has not even evinced his title, either from privilege or from intellectual and moral capacity, to hold so decided an opinion on their merits;—admitting, I say, all this, what is the nature of the reasoning itself? Let us test it by another application. *What is believed in by quacks is quackery; G. S. and H. are believers in Christianity; but G. S. and H. are quacks; ergo Christianity is quackery.*

There are few, I think, who would give much weight to the opinion of any such logician as this Reviewer, upon any scientific subject.

CHAPTER XXIV.

IN a previous part of this work, I shewed that the first French Commissioners who were appointed to investigate the reality of the pretensions of Animal Magnetism, in the infancy of the discovery, with the very imperfect knowledge they possessed of the treatment, and with all their avowed scepticism and hostility to the system, nevertheless were forced to acknowledge that certain effects had been produced by the processes they employed, and that they even ventured to propound a theory of their own, in order to enable them to account for the phenomena. I have also shewn that Dr Stieglitz of Hanover, another opponent, has been compelled to admit the whole of the facts, and that he actually ridicules the theories by means of which these French Commissioners and others attempted to explain them. I am now about to take some more particular notice of another more recent and more formidable assailant, and to point out, from an examination of his own works, what are his real and unprejudiced opinions upon the subject.

The article **MAGNETISME ANIMAL**, in the *Dictionnaire des Sciences Medicales*, was written by M. Virey, a medical gentleman of considerable learning and talent. It was composed with great care and ability, and every possible objection to the system was urged with much force and ingenuity. In short, the article was all that the most violent and obstinate opponents could have desired; and it will probably be handed down to posterity, in the learned work of which it forms a part, as one of the most splendid monuments of perverted ingenuity and scientific prejudice. These opponents, however, were not long permitted to enjoy their imaginary triumph over the obnoxious doctrine. The article received a most elaborate and satisfactory answer from the venerable M. Deleuze, in which the whole of the objections urged by M. Virey were effectually met and obviated, with all that calmness, philosophy, dignity, and decision, which so eminently distinguish the veteran historian of Animal Magnetism.*

But I wish to have nothing to do, at present, with M. Virey's *refutation* of Animal Magnetism. My object, in the mean time, is to shew that, in his

* See *Defense du Magnetisme Animal contre les attaques dont il est l'objet dans le Dictionnaire des Sciences Medicales.* Par M. J. P. F. DELEUZE. Paris, 1819.

other writings, when free from the fetters of prejudice, and not engaged in performing the task of a professed advocate or special pleader, this ingenious gentleman has actually adopted all the most essential opinions of the philosophers whose dogmas he attempts to controvert—that he is, in fact, an Animal Magnetist in every thing but the name. If I am able to satisfy my readers upon this point, they cannot, I think, look upon the article in question in any other light than that of a clever *Jeu d'esprit.**

M. Virey speaks of Animal Magnetism, as of an influence which may be felt at a distance. Now, in the article INFLUENCE of the *Dictionnaire des Sciences Medicales*, the author (M. Virey himself) endeavours to establish the principle that, when two beings are in sympathetic connexion with each other (*ont entre eux des rapports*), when their constitutions are in harmony, when two individuals have lived together, and are united by the most tender affection and by similar habits; *there then takes place between them a transmission of the vital principle, and one of them is capable of acting upon the other at a distance.*

" As there is only, as it were, one *I* between these two beings, their souls will correspond; the

* For the following references I am indebted to the volume of M. Deleuze, mentioned in the last note.

ANIMAL MAGNETISM.

brother in France will have a presentiment, even in his dreams, of what his brother may be doing in America, in a given situation. What stronger proof can we require of the reality of sympathetic influences?*

" If there existed between these individuals only a simple imitation, without any transmission of the vital influence from the one to the other, these bodies, thus assimilated, would resemble clocks which strike the same hours at the same moment,

* One of the most remarkable instances upon record, of the exercise of this faculty of sympathetic or magnetic presentiment or vision at a distance, is to be found in the *Memoires de Marguerite de Valois, Reine de Navarre*, a lady who has never been accused of superstition; and the narrative bears all the marks of authenticity. Moreover, from the period it took place and was recorded, it is obvious that it could have no reference to any of the modern doctrines of Animal Magnetism. I shall give the story in the original language.

La reine, ma mere, etoit à Metz, dangereusement malade de la fievre. Elle revant, et étant assistée autour de son lit du Roi Charles, mon frere, et de ma soeur et mon frere de Lorraine, de plusieurs Messieurs du Conseil et de force dames et princesses, qui la tenant hors d'esperance ne l'abandonnoient point, s'ecria, continuant ses reveries, comme si elle eut vu donner la bataille de Jarnac : Voyés comme ils fuyent ; mon fils a la victoire ; he Mon Dieu ! relevés mon fils, il est par terre : Voyés vous dans cette haye le Prince de Conde mort ? Tous ceux qui étoient la croyoient qu'elle revoit. Mais la nuit après M. de Lopez lui en ayant apporté la nouvelle : Je le savoïs bien, dit elle ; ne l'avois je pas vu avant-hier. Lors on reconnut que e n'étoit point reverie de fievre, mais un avertissement que Dieu donne aux personnes illustres.—Many instances of the same phenomenon will be found in the various cases of the natural and magnetic somnambulism adduced in this work.

but there would be no union between them, neither would act upon its neighbour. Let us prove, on the contrary, that there evidently exists a kind of transfusion of the sensitive principle between living bodies."

After having adduced his proofs, the author announces the conclusion in the following terms: "There exists then, in all probability, an invisible and transmissible vital fluid; there are real influences in operation."

In the article HOMME in the same Dictionary, written also by M. Virey, the author pronounces the following severe censure against the philosophers and philosophy of the present times:

"It is scarcely to be imagined with what an unpardonable degree of presumption, and in what a peremptory and decided tone, the dogmatists establish their at least very problematical opinions, and contemptuously treat as absurd, as ridiculous, as impossible, or even as ignorance and folly, all that is opposed to their sentiments..... Now, is it not manifest, if we will only reflect, that man does not constitute the absolute measure of all things? that there may exist, and that there really do exist, powers or principles imperceptible by our senses, and whose existence is only revealed by certain indications? Take, for example, Magnetism—attraction at a distance. Our age, which

boasts so much of its superior lights, shews as much horror for spirits, as Nature formerly did, according to Aristotle, for a vacuum. We are indisposed to acknowledge any thing but *matter* and *no matter*; we should deny the motion emanating from living forces, if a thousand proofs did not attest it every hour in man and other animals. We thus voluntarily deprive ourselves of the most wonderful facts, of the highest and most incomparable truths, in order to attach ourselves to the uncertain reports of the senses, to only the most brute and material consequences; we do not even investigate upon what foundations the nature of man reposes, whose sense and reasoning are taken for supreme arbiters, as the universal rules."

In the article *INSTINCT* in the Dictionary above named, likewise by M. Virey, we are told that it is wrong to deny that man is endowed with instinct, like the other animals; *and that this faculty, unexercised in our ordinary state, is developed in certain circumstances, and gives us more certain information than that which we can acquire by the senses and experience.*

"*Nature, acting then alone, and without being opposed or deranged by the intellectual faculties or the will, manifests those astonishing acts of salutary conservation or direction for the cure of diseases.*"

"*For the same reason, we frequently experience,*

during sleep, the annunciation or indication of the state of the body, which is the manifest voice of the instinct."

M. Virey continues : " We will not be accused of giving credit to the illusions of the pretended Animal Magnetism ; but its disciples support their doctrine by well known cases, in which the instinct comes into play, in consequence of the inactivity of the external senses. Let a delicate or nervous female abandon herself to that state of *half-sleep* called the *magnetic somnambulism*, let her shut up her senses; or the doors of external impressions, the internal impressions becoming predominant, *she will then feel in a more lively manner ; she will see, according to her own language, all the interior of her economy.....It is natural, and conformable to the laws of the organism, that she should spontaneously desire and demand those kinds of remedies which are most appropriate to her ailments.*"

Now, although the facts here are not very fairly stated,* yet, taking M. Virey's own view of the

* " We do not know why one individual is more susceptible of somnambulism than another, why the same person is susceptible of somnambulism in one disease, and not in another, &c. ; but we are certain that men of a robust temperament and an apathetic character fall into somnambulism as easily as delicate and nervous women. The best somnambulists are not those who, in their waking state, appear to have an irritable and delicate nervous system. Wienholt even became assured that magnetism produces very little effect in inveterate nervous

matter, what great difference does there exist between the opinion he has expressed and that which is held, upon experimental evidence, by the Animal Magnetists? Does not M. Virey acknowledge the reality and the utility of the magnetic somnambulism? He does not, indeed, appear to have a very accurate notion of the nature of the affection in question, which he improperly denominates a *half-sleep*; but he admits the essential phenomena. M. Virey, however, denies that a somnambulist can "contemplate the interior of the economy of another individual, prescribe remedies for him," &c. But here the author seems to have forgotten what he had previously said in the article INFLUENCE, in which he acknowledged that such a sympathetic connexion might be established between two individuals, as that the one should feel all the complaints of the other.

It is rather remarkable, that M. Virey explains the phenomena of the Instinct upon the same principle to which Kluge and others attribute those of Somnambulism. According to his view, the difference that exists between the instinct and the intellect results from the distinction of the two ner-

diseases, especially when the patient has made use of stimulants; and I believe that the most of those who have practised magnetism have acknowledged the truth of this observation."—DELEUZE, *Defense*, &c. p. 67.

vous systems : "The interior or ganglionic system," says he, "is the exclusive seat of the instinct. From thence emanate the spontaneous impulsions. It watches continually over the conservation of the individual, even during sleep, in delirium, in disease." M. Virey had previously said nearly the same things in the article **FORCES MEDICATRICES** : "When a sensible organization observes itself internally, the instinct speaks ; it inspires and instructs the individual on the subject of his peculiar complaints, and frequently in a more luminous manner than the most skilful physician is capable of doing. This internal voice is independent of the intellect : the most simple persons, idiots, individuals half-asleep, are even more capable of hearing it, because they are less distract-ed by external sensations."

Now, the phenomena described by M. Virey are precisely of the same class with those produced by Animal Magnetism. M. Virey, indeed, is continually protesting against the idea of his being thought to give any countenance to what he is pleased to call the "extravagances" of Animal Magnetism. But he fully admits that nature sometimes, and under certain conditions, produces extraordinary and most important changes on the animal organism ; and all the extravagance of the magnetizers consists in having discovered and de-

terminated one of the causes by which these changes may be developed, and in having given to this cause a particular name.

Independently of the articles inserted in the *Dictionnaire des Sciences Medicales*, M. Virey is the author of a metaphysical and physiological work, in two volumes, published in 1808, under the title of *L'Art de Perfectionner l'Homme*. At the period when this work was published, M. Virey was perhaps entirely ignorant of Animal Magnetism ; at least he does not appear to have then had any idea that he should one day be engaged as the redoubted antagonist of that doctrine, for he makes not the slightest allusion to the subject. In this work, the author propounds opinions in all respects coincident with those already noticed ; and of these I shall quote a few, for the purpose of shewing with what consistency he can attempt to controvert the doctrines which he undertook to refute.

M. Virey recognises in man “a soul—a peculiar force which animates him.” (Vol. i. p. 2). “This force has particular faculties, independent of the organization of the body.....It is by means of this invisible agent that we acquire all our knowledge;.....it alone constitutes our true being.” (*Ibid.* pp. 4, 5).

“Man is composed of three kinds of principles ;
1. Of an immaterial or intellectual soul ; 2. Of a

sensitive faculty, or life; and, 3. Of material elements."—(P. 7). "In order to act upon the body, the soul makes use of a vital principle, or of a nervous fluid, which is capable of impressing motion and sensation upon our organs."—(Ibid.)

"Although this principle is perhaps more subtle than light, it appears to be a material substance, capable of accumulating, and even of passing from one body to another."—(P. 8.)

"If there exist in the intervals of the stars an exceedingly rare and subtle fluid, which has been called *ether*, it must possess the most penetrating qualities. It must even be capable of producing the most wonderful effects (as Newton and Euler imagined). This ethereal substance being able to insinuate itself into the most compact matters, must produce in them different effects, according to the nature of the bodies, the modifications of which it is susceptible," &c.—(Pp. 15, 16.) *

"The soul may sometimes acquire a supernatural development, and receive from God an increase of knowledge and of energy."—(P. 59.)

"Our soul perceives without reasoning, and by a secret action of its faculties, harmonious relations with other souls, such as sounds have amongst each other. We do not acquire this instinct by

* See Appendix, No. iii.

science, although it may be rendered more perfect by study."—(P. 172.)

"The sensitive element is not of the same nature with thought: it is secreted in the brain; it descends into the nerves; it exhausts itself and is renewed. An animal is a fountain of life: it loses some part every day, and it extracts a fresh portion from the surrounding bodies. We never live more energetically than when effusing the vital principle outwards."—(Pp. 317–320.)

The author then speaks of the sympathy that exists between all human beings by the mutual transmission of their vital heat, and quotes the dictum of Hippocrates: *Si quis animam animæ miscere non credit, ille decipit.*"—(P. 321.)

"There may exist objects which transcend our senses, and if we perceive all that is necessary for us, we do not perceive all that exists. We only know the magnetic fluid by its effects upon iron, and its polarity. Electricity was for a long period unknown. We may suspect that there are in the world several subtle fluids, and certain concealed properties, of which we have yet no notion; and this is the reason why we find many phenomena inexplicable."—(P. 352.)

"*The presence, the touch, or the words of a very eminent man, have a very singular influence on inferior minds, and are capable of curing bodily dis-*

ease. Hence fascinations, enchantments," &c.—(Vol. ii. p. 22.)

"If, even in delirium, the soul preserves clear and lively ideas; if it perceives what is suitable to the malady, and discovers the appropriate remedies; if it foresees the accesses of the crises, the cure, or death—it is a proof that it is not changed in its essence. This delirium, in fact, only changes the state of the body, the pure spirit being an incorruptible principle."—(P. 209.)

"Our soul is susceptible of three principal states: 1. That of ordinary life, which employs the soul and the body; 2. That of dreaming or delirium, which chiefly occupies the sensitive faculties of the body; 3. The state of ecstatic meditation, in which the soul acts almost alone."—(P. 212.) In a subsequent passage, the author observes, that, in this last state, "the soul can contemplate events from a higher point of view, and its dreams have something of a prophetic character; for being prodigiously separated from the body by meditation, it seems to have diffused itself throughout universal nature, where it can remark many effects in their source."

—(P. 237.)

"The habit of directing his nervous energies, gives to him who contracts it a marked superiority over other men.....Experience proves that the will sends the vital spirits into the nerves."—(P. 267.)

“ Our soul has spontaneous motions. It acts alone, without the concurrence of the body: it directs the vital spirits to where they are required to go. It organises the foetus In diseases, it constitutes that *natura medicatrix*, which, taking care to direct the humours in a salutary manner, *points out to the physician what he ought to do*. It is not an acquired science, but an innate faculty. Instructed by the Author of all being Himself, the soul has no need of acquired knowledge, which is only relative to external objects.”

—(Pp. 324, 225.)

“ *When the equilibrium of health has been disturbed, the motion of the soul mechanically aspires to restore it*. *Every disease frequently discovers its remedy, if we will only listen to its determinations*. *Medicine is in ourselves; we do not create, we develope it, when, consulting in silence the impulse of nature, we favour its direction, according to the axiom of Hippocrates: Quo natura vergit eo ducendum est*. *Nature may produce in every being the desire of an unknown object, and cause an individual to divine a remedy, of which, perhaps, all the science of the physician would never have dreamt.*”—(Pp. 340, 341.)

“ Without doubt, we owe to a certain ability of mind those predictions which result from experience and prudence; but nature replaces this ad-

vantage, in animals, and the most simple of mankind, by very delicate instincts. Our souls have naturally a *tact* which gives them a presentiment of seasons, and sometimes of events. The more the mind is occupied with science, the less is it moved by internal impressions. Ignorance, too, by leaving the soul in its natural condition, is more susceptible of instinctive impressions, than the logical and limited march of the reasoning power."

—(Pp. 346-348.)

" Amongst doubtful events, when we cannot form a conjecture as to what may be the issue, if we take them so much to heart as to become heated, the soul is enlightened, and sometimes penetrates into the future. A prophet does not know the cause of his prophecy: he feels himself moved by a power which exceeds his natural energies; he does not divine all things, but only that which comes into his thoughts." —(P. 352.)

" This species of divination arises, and is lost naturally, and is with difficulty retained. When the mind manifests it, all the senses are in a state of temporary suspension, and nothing external distracts them." —(P. 354.)

" Our soul may be placed in such harmony with that of another, as to divine many accidents which may befall him, although the bodies may be distant from each other." —(P. 359.)

Such are some of the deliberate and unprejudiced opinions of M. Virey. I do not feel myself called upon either to defend or to controvert them. But I cannot help expressing my astonishment that the individual professing them should affect to be so decidedly hostile to Animal Magnetism—a study which supplies the only experimental *data* by which they are capable of being supported.*

* M. Fournier, the author of the article *EFFLUVE* in the *Dictionnaire des Sciences Médicales*, mentions the following curious fact. "For ourselves, who have witnessed several effects of magnetism, but who are not yet sufficiently enlightened to have a fixed opinion upon its causes, its advantages, or even the extent of its power, and who in our observations are always guided by the spirit of philosophical scepticism, we attest that many persons have vainly attempted to make us experience magnetic effects; a single physician succeeds in producing upon us their manifestations. Scarcely have we subjected ourselves to his *atouchemens*, when we experience, without being able to prevent it, a somnolency, a numbness, more agreeable than painful, which chains down our will and our thought; and if in these circumstances we feel any spasmodic pain, an attack of megrim, it almost suddenly disappears. *The physician of whom we speak is one of the contributors to this Dictionary, and has distinguished himself as one of the most eloquent adversaries of magnetism.*"

Can the physician here alluded to be M. Virey.

CHAPTER XXV.

HAVING noticed the almost universally prevalent belief in the occasional development of some most extraordinary powers and faculties in certain states of the human organism ; having produced various instances in which the remarkable phenomena in question were conspicuously manifested in the natural somnambulism ; having quoted the opinions of many ingenious and impartial physicians and philosophers, who have borne distinct and ample testimony not only to the possibility but to the actual occurrence of the facts, and having, moreover, shewn, that the most celebrated antagonists of Animal Magnetism fully admit the essential *data* upon which that doctrine is founded ; I trust that my intelligent readers are now prepared to follow me to the consideration of certain cases, which, without such preparation, they would unquestionably have been disposed to regard with the utmost scepticism, notwithstanding the undoubted competency and respectability of the reporters. The phenomena I

am now about to illustrate by a few examples, are those which have been found to occur in the Magnetic Somnambulism ; and I think these examples will sufficiently shew that the opinions I recently referred to have been abundantly confirmed by direct experiment.

I shall pass over the works of the Marquis de Puysegur, and those of M. Tardy de Montravel,—whose cases, although of the highest importance to the study of this interesting subject, are generally too minutely reported for convenient abridgment,—and commence with a case of which the details will be found in the works of one of the earliest patrons of the magnetic treatment after Mesmer, and one of the most sober, honest, and intelligent writers upon the doctrines and practice of Animal Magnetism—Dr Wienholt. The case itself is otherwise interesting, as having first given occasion to the introduction of this branch of medical practice into Bremen.*

In consequence of a complete failure of all the ordinary means of cure, in the case of one of his female patients, Dr Wienholt resolved to resort to Magnetism. This resolution was approved of by his colleague, Dr Olbers—the celebrated astronomer,—who, however, had, at that time, little confi-

* WIENHOLT, *Heilk. d. Thierisch. Magnet.* vol. i.

dence in the efficacy of the treatment. The lady was magnetized, for the first time, on the 6th of July; and for some weeks there was little perceptible change in her state, excepting that her complaints gradually became less frequent and less violent. After about three weeks, the Doctor perceived that, when he manipulated her during a cataleptic attack, especially towards the pit of the stomach, she occasionally became more restless, her limbs appeared less rigid, and the fit more nearly resembled a natural sleep. I need not follow the progress of this successful treatment farther than just to point out the remarkable phenomena which occurred. Upon the 4th of September, the lady appears to have become somnambulist for the first time, and the doctor now heard her speak in her sleep. She told several stories in a cheerful tone, mingled with some strokes of good-natured satire—her expressions were dignified and appropriate, and perfectly coherent—her voice was more melodious than usual, and she spoke in a superior dialect. At this time she answered no questions, but proceeded with the narrative in which she happened to be engaged. When the doctor visited her in the evening of the same day, she immediately began to speak, and mentioned, amongst other things, that a certain physician, otherwise a stranger to her, wished her to take rhubarb. The doctor

then asked her whether she would not take rhubarb, as it might perhaps do her good. She answered, "No! it is impossible for me to take it." She was then asked whether an emetic would be of service to her. She answered, "No." "Whether she would drink some Pyrmont water?" "Not yet," was the answer. To other questions she gave no answer at all. After having been again magnetized for some time, the doctor began to ask questions, and received precise answers. She was asked if she would eat a particular kind of soup? She answered, "No."—"Why?"—"Because I am sick."—"Oh! you are not sick—you look so cheerful and pleased—get up and walk about."—"How can I do so?—my limbs won't carry me."—"When will your sickness terminate?"—"I do not know."—"Will you resume your bathing?"—No answer.—"Will you drink Pyrmont water?"—"No."—"Why?"—"Because it would be of no use to me at present." On a sudden, she turned round and began to question the doctor. "Did not you tell your wife that you conversed with me during my sleep?" The doctor denied this. "Now," said she, "you are not telling the truth." Here, Dr Wienholt observes that neither he nor his wife were upon any footing of friendly intercourse with this lady or her relations, and, therefore, she had no means of knowing any confidential communica-

tion he might have made to his wife. "Yes." said the doctor, "I confess I told her so."

Upon another occasion, the doctor again asked her whether she would not resume her bathing. She answered in the affirmative. "Should the bath be cold, as formerly?"—"No, rather warmer."—"Will you be able to bear it now?"—"I believe I shall."—"Do you think that steel would be of use to you?" This question was also answered in the affirmative. "Shall I give it you in drops or in powders?"—"In drops."—"Would not some glasses of Pyrmont water, taken early in the morning, be of advantage to you?"—"O, yes." When asked whether Magnetism ought to be continued in the same way as hitherto, she answered in the affirmative, and added that it would be sufficient to administer it once a-day. This lady repeatedly answered many similar questions in her sleep, and also pointed out the particular treatment which would be of most benefit to her.

At another time, Dr Wienholt happened to ask her whether she had lately received any letters from her brother in Riga. She answered, "No—he has been sick, very sick."—"How do you know this?"—No answer.—"Who told you so?"—"Nobody."—"Have you dreamt it then?"—A serious and uneasy look, but no answer. The doctor again asked her how she had come to entertain such

thoughts. She answered that certainly nobody had told her, but, nevertheless, she knew that he had been extremely ill. Her mother knew nothing of this illness, and so little did she herself suspect it in her waking state, that she expressed great surprise when accounts arrived, some days afterwards, that her brother had been seriously indisposed, but was getting better.

Upon one occasion, Dr Olbers came into the house, and the patient, without being told of it, knew that he was in the ante-chamber. Next morning, the mother said that she had spoken to her daughter, when awake, upon this subject, and that she recollects nothing of the circumstance. The Doctor asked the patient, when asleep, how she came to know yesterday that Dr Olbers was in the ante-chamber. She answered, because she had seen him; and being again asked how she could possibly see him when her eyes were shut, and the wall and the door were between them—she could give no satisfactory explanation of the phenomenon.

At another time, this patient, during her magnetic sleep, predicted two fainting-fits which were to take place the next day, and which took place accordingly.

This case presents a variety of other instances of the magnetic *clairvoyance*, which are related

with great minuteness by Dr Wienholt himself, in his principal work on Animal Magnetism; but I am unwilling to enter any farther into the detail of these particulars, and must therefore refer the reader to the work itself: being anxious to proceed to notice other cases, in which phenomena of a similar description were manifested.

In the first volume of the *Bibliotheque du Magnetisme Animal*, there is a short account of the magnetic treatment of a Madame G. by M. de Failieres. This lady was much contused and injured by an accident, and was magnetized by the gentleman above named. At the very first sitting, she became somnambulist, described her own complaints, prescribed the appropriate remedies, and predicted the period of her recovery, with great exactness.

In the same volume, the following case is reported by M. Lamy Senart:—A M. Baron was magnetized by this gentleman, and placed in a state of somnambulism. At the third sitting, the patient alluded, by signs and gestures, to a journey which the operator was obliged to make, and at which he expressed great concern. M. Senart assured him that he should return in the course of eight days. Upon this, the patient held up first his ten fingers, and then a single one, by which the operator understood him to intimate that he should be absent

eleven days. The question was put to him, and he answered, by a motion of his head, that such was his meaning. M. Senart renewed his promise of being back in eight days; but the patient persisted in holding up eleven fingers. M. Senart was a good deal struck by this prediction; but, in point of fact, although he persevered in his original intention, he met with an accident which detained him on the road, and he did not return till the eleventh day, thus verifying the prediction of M. Baron.

This patient also saw and described his own complaint, predicted a severe fit of convulsions, and, at the request of the operator, pointed out the means of averting it. He was likewise consulted upon the complaints of others, and, in the words of the reporter, such was his lucidity, that he was never once mistaken with regard to the diseases of the patients who consulted him, who all went away satisfied and astonished at the sagacity and accuracy of his decisions. M. Senart has appended an account of some of these consultations to his report of this case. I may add, that this patient predicted, with great accuracy, the period of his recovery.

One of the consultations alluded to is rather curious and amusing. A certain physician, having heard of the extraordinary faculties manifested by M. Baron, came from a distance of fifteen leagues,

for the purpose of seeing and examining him. M. Senart set the patient asleep by magnetism. His sleep appeared to the physician to be so natural, that he could not be persuaded that he was in a state of somnambulism. He was then placed *en rapport* with the patient, and requested to ask him some questions respecting his complaint. The physician, in his examination, made use of medical terms: the Somnambulist answered him correctly, but without employing the same phraseology. The inquisitive observer pressed the patient with questions, in hopes of leading him into some mistake. They conversed about half an hour, at the termination of which period the physician declared: "I can now make no objection to him—in fact, he knows more than I do myself."

But the experiments were not yet at an end. "Am I in bad health?" asked the physician. "No," answered the patient. "Have I been indisposed?" "No." "What is the reason of this?" "Thoughtless persons, like you, are seldom indisposed." The physician asked no more questions. His brother, M. Cambronne, merchant at Saint-Quentin, then said to him: "Well, brother! he never saw you before, but you must acknowledge that he knows you pretty well."

In an article upon the *Vital Fluid*, in the second volume of the same Journal, an extract is commu-

cated from a letter, dated from Cadenet, in the department of Vaucluse, in the month of October 1802, giving an account of two young Magnetizers —the one Anthony Tronchon, a lad of twenty-one years of age, and the other a girl of twenty, called Virginia. The following is the method in which Tronchon is described as proceeding to his consultations. He sits down in an arm-chair; his brother then magnetizes him, and he falls asleep speedily and profoundly. The patients are then brought near him, and, in his somnambulism, he describes with great exactness all their complaints, and the symptoms which preceded and which accompany them, without passing over even the most minute particular. The complaints once known, he prescribes the appropriate remedies, recommending only simples. He points out to the patients the mountains where they grow; and certainly, without having studied Linnæus, he describes them in such a manner, that they may be recognised at the first glance. The girl, Virginia, operates in a similar manner, and with equal success. I may here observe, that the cures alleged to have been performed of old in the Greek temples, are supposed to have been effected according to some method analogous to that now described;

and upon this supposition we might be enabled to explain many of the mysteries of the ancient priests, without having recourse to the agency of superstition and delusion. My limited space will not permit me to enlarge upon this subject at present ; but I am not the first who has had occasion to remark that such is often the fate of human knowledge. “ It is found and lost, and found again ; like one of those rivers which, after flowing visibly over a certain space, sink into the ground, and are lost for a time, but afterwards return to the surface of the earth, and again roll along in day-light.”*

In the same article from which I have extracted the preceding account of the two young Magnetizers, the author mentions that, at Landau, he once magnetized a lady of about thirty years of age, who had been fatuous from her birth. She belonged to an opulent and distinguished family, who had used every possible means to endeavour to restore her intellect, but without success. When placed in a state of somnambulism, she conversed upon various matters with great propriety ; she was no longer the same being ; a person who saw her then for the first time would never have suspected that she was deficient in mental energy. Her parents, who were present, were astonished, wept for joy, and

* *Edinburgh Annual Register*, for 1810, p. 520.

exclaimed : " Ah ! why is she not always a Somnambulist ?"*

In the same volume of the work referred to, there is a letter from a lady to M. Deleuze, the celebrated writer on Animal Magnetism, containing an account of a very curious case. The lady was afflicted with a very serious complaint, and, despairing of relief from the ordinary resources of medicine, she applied to a Magnetizer, who agreed to undertake her treatment. He accordingly did magnetize her during three or four months, when,

* The author of the article from which I have made the above extracts, makes the following observations upon this subject.

" I have often had occasion to remark, that persons affected with *mania*, or labouring under some mental irregularity which caused them to be taxed with slight insanity, are, in the state of somnambulism, generally more *clairvoyants* than others, and that, at such times, they exhibit no indication of the defects of mind with which they are charged. I have remarked the same thing in cases where the intellectual faculties were absent, or manifestly infirm.

" These phenomena are sufficiently explained by the observations of old and experienced physicians. They know that partial insanity, different kinds of *mania*, symptoms of an habitual aberration of mind, have most frequently their principal seat in some deeply affected *viscus* of the epigastrium ; and, in that case, the irregularity of the cerebral functions is only sympathetic. Now, somnambulism, has the effect of insulating the latter, of rendering them, for the time, independent of their usual relations, of withdrawing the brain from its morbid affections ; and it is by such means that this organ instantaneously acquires this freedom, this facility, this great latitude of operating, which it enjoys in this state."

visiting her one day, he said he was afraid that he should not be able to magnetize her, as he was himself very much indisposed. The lady then proposed to magnetize *him*—he consented—and in a quarter of an hour he became somnambulist. He requested that his eyes might be bandaged, as he thought he should then be able to see better. The lady then requested that he would examine himself, and endeavour to discover how his sufferings might be relieved. He answered: “I have too little fortitude, and am easily affected. My complaint is trifling, and I shall be well to-morrow. It is you that I must examine. But how fortunate it is that you have made me somnambulist! Henceforth, we shall always commence our magnetic treatment in this manner, and I assure you that you will be well attended to.”

From that period, the lady constantly set her magnetizer asleep every day, and in consequence of following his prescriptions, while in a state of somnambulism, her complaint (*a scirrhus*) was removed. While in this state, too, he predicted that she should be attacked, some time afterwards, by a complaint of a different nature. This prediction was fulfilled, and she was again cured in precisely the same manner as before. The veracity of this account is vouched by M. Deleuze himself, who knew the parties.

At the end of the same volume, there are Reports of the magnetic treatment of four females, amongst others, by M. Germon, Curate of Saint-Aubin-le-Cloux. All of these four became lucid somnambulists, and, in that state, prescribed the proper remedies for their different complaints. They were all cured but one, whose complaint, however, was much alleviated, and hopes were entertained of her complete recovery. These Reports are certified by the authorities of the place, and by other respectable persons.

In the fourth volume of the *Bibliotheque du Magnetisme Animal*, M. de Puysegur gives some account of a woman, Agnes Burguet, called La femme Maréchal de Buzancy, of whom he had made mention in some of his previous writings. This woman had for many years been subject to irregular and periodical fits of convulsions, accompanied with other symptoms, which, if left to themselves, would inevitably have terminated her existence. She had been treated magnetically by M. de Puysegur, whom she always apprised, in due time, of the day and the hour when a fit was to come on. When in a state of somnambulism, she not only saw her own complaints and prescribed for them, but also, after careful examination, saw and prescribed for the complaints of others with whom she was placed *en rapport*; of which remarkable faculty several

instances are given in the volume referred to. M. de Puysegur observes, that it was always necessary, upon these occasions, to submit implicitly to the dictates, and to execute punctually the directions, of the Somnambulist; and this observation is confirmed by the experience of every other practical magnetizer. The prescriptions of Somnambulists are invariably found to be efficacious—a deviation from them frequently proves dangerous.

In the same volume of the *Bibliotheque*, there is an extract of a letter written by the Countess de C. Her son, who had been under magnetic treatment fifteen years before, had predicted, in his last crisis of somnambulism, that he should enjoy good health for fourteen years, but that, at the termination of that period, he should again become seriously indisposed. This prediction was fulfilled, and the patient was again relieved by the same mode of treatment.

There is also, in the same volume, an account by M. Thiriat, Doctor of Medicine and Physician at the mineral waters of Plombieres, of a patient who was sent to consult him and to drink the waters, on account of some complaints, originating, in a great measure, from previous injudicious treatment. This lady having been magnetized by M. Thiriat, she became somnambulist, and gradually more and more *clairvoyante*. In a short time, she

conversed with the Doctor about her situation with a precision which astonished him. She pointed out the cause of her complaints, and prescribed the treatment necessary to restore her to health. The thermal waters did her good by strengthening her ; but the grand remedy, says Dr Thiriat, was the magnetic sleep, during which she pointed out the manipulations which ought to be used, and the other medical means which ought to be employed. " My knowledge of medicine," says the Doctor, " never placed me for an instant in contradiction with her indications. I may even assert, that she sometimes rectified my own ideas." This lady even discovered one day, by accident, that the Doctor himself was indisposed, and she pointed out the nature of his complaints, and the remedies he ought to employ. We have the Doctor's own assurance that the mode of treatment she prescribed was exceedingly appropriate and completely successful. He also consulted her in the case of some of his other patients, and was perfectly satisfied with the reflections she made upon them.

Madame Hugaut had a weakly child, upon whose case Dr Thiriat thought it advisable to consult some of his somnambulists. The husband of this lady was very incredulous, and although he had witnessed some very extraordinary magnetic phenomena, he could never be convinced of their rea-

lity, until this consultation about his own child. Madame Chevalier, another patient of the doctor's, was exceedingly *clairvoyante* in her somnambulism, and transported herself mentally to the house of this gentleman, whom she did not know, and of whose place of residence she was ignorant in her waking state. She there saw his son, a boy of twenty-seven months, described his situation and the nature of his complaints, and predicted some other symptoms which were to occur. Mademoiselle S., another somnambulist, was consulted next day upon the case of the same child, and repeated precisely the same things, only that she entered more into detail; but although in other respects quite as *clairvoyante* as Madame Chevalier, Mademoiselle S. could not transport herself mentally into a house she did not know: it was necessary that she should touch the persons about whom she was consulted.

The following case occurred at Paris, in the chambers of Dr Fouquier, in the year 1830, and was witnessed by a great many persons.

Petronilla Leclerc, aged twenty-six, was admitted into the *Hospital de la Charité*, afflicted with a cerebral, spasmodyc, epileptiform affection. M. Sébire, who had charge of her, applied magnetism to her several times, when some very remarkable phenomena were manifested.

In the first sitting, the somnambulist gave several marks of lucidity. The person who had magnetized her, presented to her some objects, such as a bottle filled with vinegar, sugar, bread, &c. which she recognised perfectly well without seeing them. Besides, she had a bandage over her eyes. In order to answer questions which were put to her, she turned to the opposite side, and plunged her face into the pillow. Without being asked, she said to the person who was holding her hand, " You have got a头痛." The fact was true; but to try her, M. Sebire answered that she was mistaken. " That is singular," she replied, " I touched some person who had a头痛, for I felt it." She distinguished several persons who were present at the experiments by some peculiarities of their dress.

One of the most remarkable circumstances was the following. The magnetizer had retired, after promising to return at half-past five o'clock, in order to awaken her. He arrived before the time. The somnambulist made him observe that it was not yet half-past five. The latter answered that he had just received a letter which obliged him to return sooner. " O yes !" she immediately replied, " it is that letter which you have in your portfolio between a blue and yellow card." The fact was strictly true. M. Sebire, without saying any thing, placed a watch behind the occiput, and then asked

her what o'clock it was. She answered, "Six minutes past four ;" and she was right.*

I conceive it quite unnecessary to bring forward any more instances, than those already adduced, of that phenomenon of *lucid vision*, which consists of the faculty of seeing through intervening obstacles, and of *intuition*, that is to say, that condition of the organism, in which, as formerly described, the patient obtains a clear knowledge of his own internal mental and bodily state, is enabled to calculate, with accuracy, the phenomena of disease which will naturally and inevitably occur, and to determine what are their most appropriate and effectual remedies ; as also to exercise the same power of internal inspection with regard to other persons who have been previously placed in magnetic connexion with him. M. Chardel, the ingenious author of an essay on *Physiological Psychology*, assures us—and I have no doubt of the fact—that he could adduce hundreds of examples of these phenomena, which occur in almost every magnetic treatment ; but that it appears to him quite superfluous to be continually recurring to the reality of facts which have been already so amply established. I shall, therefore, now proceed, in the progress of my induction, to give a few instances of those phenomena which oc-

* *Gavette de Santé*, 1830, No. 26.

cur in Dr Kluge's sixth degree, and which have been thus described in a former part of this work:

"In the sixth degree, the lucid vision (*clairvoyance*), which the patient possessed in the former degree, extends to all objects, near and at a distance, in space and in time; hence it has been denominated the degree of *universal lucidity*."

CHAPTER XXVI.

THE first two or three instances of the phenomena in question, I shall extract from the work of M. Chardel, already referred to, who treats of Animal Magnetism incidentally, as connected with psychological science, and who, moreover, speaks from personal knowledge of the facts he relates.

M. Chardel had two sisters as his patients, who were both magnetic somnambulists, and in the most intimate *rapport* with each other. M. Chardel proposed to bleed the elder of these two sisters in the foot. In the mean time, the younger sister, after being magnetized, felt somewhat indisposed, and went to bed in another room. The father and mother remained to assist the operator. At the first attempt to insert the lancet, a piercing cry was heard to proceed from the bed-room of the younger sister, who, on entering it, was found to be in a swoon, in the position in which she had gone to sleep. M. Chardel recovered her, and enquired the cause of her fainting. She then related the details of all his movements in the projected

operation. She said that she had constantly followed him with her eyes, and that, at the moment he was going to insert the lancet, an emotion, which she could not control, had entirely deprived her of sense. In the case of ordinary life, this would have been impossible, considering the distance and the intervening walls.

The same author mentions the following anecdote, upon the authority of a gentleman of distinction and credit.

The wife of this gentleman had a *femme de chambre* in a very weak state of health. She magnetized her, and placed her in a state of somnambulism. The lady was assisted by her husband. One day, when the magnetic sitting was accompanied with some considerable pains, the patient asked for some old wine. The husband took a candle, and went down to the cellar in search of it. He descended the first flight of steps without any accident; but the cellar being situated pretty far under ground, the steps in the lower part were wet. He slipped upon the stair, and fell backwards, but without hurting himself, and even without extinguishing the light which he held in his hand. When he returned with the wine, he found that his wife was informed of his fall, and of all the particulars of his subterranean journey—the somnambulist having related them to her exactly as

they happened. M. Chardel says that he could adduce several other instances, within his personal knowledge, of a similar degree of *clairvoyance* having been manifested at much greater distances.

The same respectable author mentions that he knew the wife of a Colonel of a cavalry regiment, who was magnetized by her husband, and became somnambulist. Having himself become indisposed, he was obliged to call in to his assistance, for eight or ten days, an officer of the same regiment. At a magnetic sitting subsequent to this, the husband having placed his wife in a state of somnambulism, called her attention to this officer. "Ah! the wretched man!" she exclaimed, "I see him—he is at——, he is going to kill himself—he has a pistol in his hand—run, run!" The place was about a league distant—the husband mounted his horse, and made all the haste he could; but he arrived too late—the suicide had been already perpetrated.

My readers may perhaps recollect the case of Madame P., which is recorded by the late Committee of the French Royal Academy of Medicine, in their celebrated Report, a translation of which was formerly published, and which will now be found in the Appendix. It will probably be remembered that this lady was placed, by means of Magnetism, in a state of complete corporeal insensibility, and, while in this situation, had a serious

and painful operation performed upon her by M. Cloquet. M. Chardel has preserved several additional particulars relative to this case, which are well worthy of notice.

This lady, whose name was Madame Plantin, had a married daughter, Madame Lagandr , who resided in the country, and was unable to repair to Paris until some days after the operation had been performed upon her mother. Madame Lagandr , having been magnetized, became somnambulist, and manifested a very remarkable degree of lucidity. It was proposed to consult her upon the state of her mother, and for this purpose Dr Chapelain magnetized her on the 26th of April, and questioned her on the subject. She answered by giving a circumstantial and accurate description of her mother's complaints, and predicting her death in the course of two days, in spite of all that could be done for her. On the following day, Dr Chapelain, upon visiting his patient, Madame Plantin, found that the melancholy prediction of the Somnambulist was about to be verified. She was evidently much worse. M. Cloquet requested Dr Chapelain to place Madame Lagandr  in a state of somnambulism, and put several questions to her relative to Madame Plantin. She answered that her mother had become very weak during the last few days—that her life was only artificially prolonged by

magnetism—and that, notwithstanding every effort, she should die next morning early, without pain. When asked what were the parts diseased, she gave, as will be afterwards seen, a correct description of them. M. Chapelain magnetized Madame Plantin several times, with great energy, during the course of the day, and could scarcely succeed in setting her asleep. When he returned next morning about seven o'clock, the patient had just expired.

The two Doctors were very naturally anxious to verify the declarations of the Somnambulist relative to the internal state of the body, and obtained the consent of the family to examine it. M. Moreau, secretary to the surgical section of the Academy, and Dr Dronsart, were requested to attend as witnesses, and it was resolved that the examination should take place next day in their presence. It was conducted by M. Cloquet and his assistant, M. Pailloux. Dr Chapelain was also present. The latter set Madame Lagandr   asleep, a short time before the hour fixed upon for the operation. The medical gentlemen then requested to know, from her own mouth, what she had previously said she had seen in the interior of the body of Madame Plantin ; when the Somnambulist repeated, in a firm tone of voice, and without hesitation, what she had formerly announced to MM. Cloquet and

Chaplain. The latter then conducted her to the room adjoining that in which the operation was to be performed, and of which the door was exactly shut. Madame Lagandré was still in a state of somnambulism, and, in spite of the barriers which separated her from these gentlemen, she followed the bistoury in the hands of the operator, and said to the persons around her : "Why do they make the incision in the middle of the breast, seeing that the effusion is in the right side?"

The indications given by the somnambulist were found to be quite correct. The *procés-verbal* of the examination was drawn up by Dr Dronsart, attested and signed by all the persons present, and inserted at length in the work of M. Chardel.

In the German "Annals of Medicine" (*Jahrbücher der Medicin*), the celebrated philosopher Schelling, relates the following case, which occurred under his own observation.

"In a crisis of *clairvoyance*, Miss M. having previously been quite cheerful, began, all at once, to assume an appearance of anxiety and sorrow, and, at last, fell a-weeping. When I asked her what was the matter, she answered, that she had just then become aware that a death had recently taken place in the family, at the distance of more than one hundred and fifty leagues. I endeavoured to

dissuade her from entertaining such thoughts, but in vain ; she insisted that she was quite certain of the fact, and continued to weep. Wishing to ascertain how she had come by this intelligence, she said she herself did not well know, but that she had at once become quite certain of it. I asked her whether she could name the person who had died : She said she could not at that time, but should be able to do so in a future crisis. She added, that the letter containing the intelligence was then upon its way. She conjured me to say nothing about this presentiment after the crisis, otherwise it would give her mortal anxiety.

“ It is well known,” says the Professor, “ that somnambulists, when they awake out of the magnetic sleep, have not the slightest recollection of what may have taken place in it. When she awoke out of her sleep, Miss M. was as cheerful as ever, and had not the most distant idea of her vision. The expression of pain she exhibited during the crisis, which seemed to proceed so entirely from an internal conviction of the reality of the fact, and the obstinacy with which she adhered to her assertion of its truth, induced me to give her credit. I mentioned the case to Professor Schmidt, in order that he might be a witness to the fact. I awaited with great anxiety the hour when I could again set my somnambulist asleep, in

order to ascertain whether she would again have the same vision. For a considerable period during the crisis, nothing of the kind appeared. She was as usual quite cheerful, and spoke a great deal, until, all at once, marks of sorrow were exhibited in her countenance. She turned away her face, and hid it on her arm, which she had placed on the arm of her chair, and wept in silence. At length, I asked her what ailed her. ‘The same as yesterday,’ she answered; ‘a death has taken place in our family—I know it for certain.’ She thought it fortunate for her that she knew nothing of this when awake, because it would occasion her so much grief. I again asked her whether she did not also know the individual who was dead; and she repeated that she would be able to tell me in a future crisis, provided I put the question to her. In the following crisis, as soon as she was set asleep, she again began to weep. She requested me to use every means of diverting her attention from this circumstance during her sleep, and I endeavoured to do so by introducing other subjects of conversation; yet she frequently reverted to it. Had I foreseen the circumstances which subsequently made it impossible for me to place her more frequently in a state of crisis, I should, upon the last occasion, instead of diverting her thoughts from the subject in question, rather have endea-

voured to ascertain whether she could give any farther particulars of the event. But I neglected the opportunity, and reserved my questions for future crises, which could no longer take place. Four or five days after the last sitting, upon entering her apartment, I found Miss M. much downcast, with appearances on her countenance indicating that she had been weeping. On inquiring into the reason of this, she pointed to a letter which lay upon the table, and said it contained intelligence of the death of a near relative and particular friend. I asked her whether she had received any previous accounts of the indisposition of this individual. She answered, ‘No—none at all; the intelligence came upon me quite unexpectedly.’ Nor was she at all aware of any presentiment she had of the event.”

Dr Arndt, an eminent German physician, relates, that being one day seated near the bed of one of his somnambulists, on a sudden she became agitated, uttered sighs, and, as if tormented by some vision, exclaimed, “ O heavens! my father! he is dying!” A few moments afterwards, she awoke, seemed quite cheerful, and recollect ed nothing of the anxiety she had so recently manifested. She again relapsed twice into the same state of magnetic sleep, and each time she was tormented by the same vision. Being asked what had happened to her father, she answered, “ He is bathed

in blood—he is dying.” Soon afterwards she awoke, became composed, and the scene finished. Some weeks afterwards, Dr Arndt found this lady pensive and sorrowful. She had just received from her father, who was at a distance of some hundred miles—an account of a serious accident which had befallen him. In ascending the stair of his cellar, the door had fallen upon his breast—a considerable hemorrhage ensued, and the physicians despaired of his life. Dr Arndt, who had marked the precise time of the preceding scene of the somnambulism of this lady, found that it was exactly on the day and at the hour when the accident happened to her father. “This,” observes the Doctor, “could not have been the mere effect of chance; and, assuredly, there was no concert nor deceit on the part of the observer.”

The next case I shall adduce is still more remarkable than any of the preceding.

Mademoiselle W., whose disease and its treatment have been minutely reported by Dr Klein, her physician, appears to have been one of the most extraordinary natural somnambulists and *clairvoyantes* upon record. The following facts concerning her, which Dr Klein has slightly alluded to from motives of delicacy towards the family, are related in the third volume of the *Bibliotheque du Magnetisme*.

tisme Animal, by an eye-witness who is worthy of all credit.

After Mademoiselle W. had arrived at the house of M. St —, a respectable and opulent man, whose family is one of the most distinguished in the country, this gentleman, who had previously heard of the accidental somnambulism of this young lady, looked upon her as a very extraordinary person, and requested her to give him, as she had already done on several former occasions, some proofs of the accuracy and extent of her *magnetic telescope*, and to direct it towards his son, an officer in the army, at that time serving in Russia. From that moment, Mademoiselle W. directed her thoughts to this young man, and in all her paroxysms, although she had never seen him, she drew his portrait exactly as if she had him before her eyes. She said that he was constantly present to her mind—she accompanied him in all his military movements, and observed that, naturally brave, he exposed himself too inconsiderately to danger. She frequently asked the sister of this youug officer, whether she did not see him in a corner of the room ; and, one day, upon receiving a negative answer, she said, “ Well, then ! ask him any questions you please, and I shall return his answers.” The sister, having consented, asked all sorts of questions

relative to family matters, which were unknown to the somnambulist, who answered them all in a manner so precise and so accurate, that the interrogator afterwards declared that she felt herself seized with a cold perspiration, and was several times on the point of fainting with fright, during what she called the dialogue of the Spirits.

In another scene, the somnambulist declared to the father, that she saw his son at the hospital, with a piece of white linen wrapt round his chin—that he was wounded in the face—that he was unable to eat, but, at the same time, that he was in no danger. Some days later, she said that he was now able to eat, and that he was much better.

The family soon ceased to pay much attention to these visions, probably putting little faith in them, when, some weeks afterwards, a courier arrived from the army. M. St. immediately went to Count Th. to inquire what news he had received. The latter, at once, set his mind completely at ease, by informing him that his son's name was not in the list of the wounded, &c. Transported with joy, he returned home, and said to Mademoiselle W., who was, at that time, in her somnambulic sleep, that, for once, she had not divined accurately, and that, fortunately for his son and himself, she had been completely deceived. At these words—*divined, deceived*—the young lady felt much offended,

and, in an angry and energetic tone, assured the father that she was quite certain of the truth of what she had said—that, at the very moment, she saw his son at the hospital with his chin wrapt in white linen, and that, in the state in which she then was, it was quite impossible she could be deceived. Soon afterwards, there came a note from Count Th.; which, after some expressions of politeness and condolence, contained the following intelligence. That a second list of the wounded had arrived, in which was the name of his son, who had been struck by a musket-ball on the chin, and was under medical treatment in the hospital, &c.

According to my information, the veracity of the persons, upon whose authority the preceding narrative has been given, lies under no suspicion.

With one other case I shall close this evidence with regard to the extraordinary phenomena of the magnetic somnambulism. It is a case which excited a great deal of sensation in Germany some years ago, and which is considered as one of the most remarkable and best authenticated of any that has occurred in the annals of Magnetism.

It is now well known that two patients, in the highest degree of somnambulism, predicted the death of an illustrious personage—the late King of Wirtemberg. The prediction of the first somnambulist, in which the year and the month were an-

nounced, took place four years before the event. The circumstance was, for obvious reasons, kept secret amongst a few friends, and, from the length of time that elapsed, had been nearly forgotten, when it was unexpectedly confirmed by a second somnambulist, who announced not only the year and month, but the precise day. From the period of the second prediction, the report became more widely circulated, and those in the knowledge of the circumstance were naturally exceedingly anxious to watch the result. Bets to a considerable amount were even offered upon the fulfilment of the prediction.

The first prediction was made by the same somnambulist, Mademoiselle W., of whose extraordinary *clairvoyance* some account has been given in the preceding case. It took place in the year 1812, in presence of Dr Klein, and several other respectable persons, and was to the following effect:—“ His Majesty will die, in an unusual manner, between the 18th and 20th of April 1816.” When questioned, in some of her subsequent crises, respecting the accuracy of this announcement, she said that she was quite certain as to the year, but might be mistaken as to the particular month. At a subsequent period, she fixed upon the month of October, without specifying any particular day.

M. St., in whose house, probably, these scenes took place, had, from former experience, such confidence in the *clairvoyance* of this somnambulist; that he was induced to offer a large bet upon the event.

The second prediction was made by a somnambulist, Kr., a patient of Dr N., upon the 17th of April 1816, in presence of Dr Klein, Dr N., and Professor L.....t, and was to the following effect. "His Majesty will die this year in the month of October." When asked whether the event would take place in the beginning, the middle, or the end of the month, she answered, "The end." "Can you determine the precise day? Will it be the 26th?" "No." "The 28th?" "On that day he will be struck with apoplexy."

The King was actually struck with apoplexy on the day predicted, and died in the course of a day or two thereafter.

The Report from which I have extracted the preceding abridged account was drawn up by Professor Eschenmayer, and inserted in the first volume of the German *Archives of Animal Magnetism*. It is attested by the names of nine well known individuals—medical men, and other persons of respectability; and the Professor declares that, if necessary, he could adduce two hundred witnesses to prove the truth of the facts.

For numerous additional instances of the mag-

netic somnambulism, and its highly interesting phenomena, I must refer the rationally inquisitive reader to the works of the Marquis de Puységur, to those of M. Tardy de Montravel, to the *Bibliothèque du Magnetisme Animal*, to the German *Archives of Animal Magnetism*, edited by the Professors Eschenmayer, Kieser, Nasse, and Nees von Esenbeck—and to all the other publications I have noticed throughout this work.* I could not have

* The celebrated Dr Georget, a member of the Institute, who, from being an obstinate sceptic, afterwards became convinced of the reality of the phenomena of Animal Magnetism by numerous experiments, gives the following general result of his observations :—"My somnambulists are so totally deprived of the sense of hearing, that the loudest noise most unexpectedly produced does not cause in them the slightest alarm. Thus a pistol-shot, a noisy bell, do not produce the smallest motion, or prevent them from continuing without interruption a conversation already commenced. But the magnetizer is always heard." Georget also tells us, that his own conviction, as well as that of many other eminent physicians, was acquired from a number of experiments, guarded by the most rigorous precautions.

Dr Rostan, another distinguished physician, affirms that he has witnessed all that Dr Georget has published. He, too, was originally a sceptic, and during ten years spoke and wrote of Animal Magnetism as a system of jugglery and imposture, and of the magnetizers as a set of rogues and dupes. But he also became convinced by the unambiguous results of a number of cautious experiments.—See *Dictionnaire de Médecine*, Art. *Magnetisme Animal*.

M. Dupotet informs us, that, at his famous experiments, performed a few years ago, at the Hotel Dieu, more than fifty persons were present, chiefly physicians and students of medicine. M. Dupotet published an account of these experiments, which

gone more at large into the evidence in favour of these extraordinary facts at present, without great inconvenience. The cases on record would themselves fill many volumes.

passed through three editions ; and although this account has been several years in possession of the public, no objection has ever been made to any of its details. Yet these experiments confirm all the more remarkable phenomena of Animal Magnetism.

CHAPTER XXVII.

IN the two preceding chapters, I adduced several instances—*instantiae ostensivæ*, according to Bacon—of the manifestation of some of the more remarkable phenomena which have been found to occur in the magnetic somnambulism—the exercise of the faculties without the use of their appropriate organs, corporeal insensibility, the exaltation of the intellectual powers, intuition, prevision, prophecy, &c.* These, it will be perceived, are

* All of these phenomena are fully admitted by an anonymous author, to whom I formerly referred, who, so far as I can see, does not appear to be a practical magnetizer, but who seems to have an intimate knowledge of the subject, treats it with much philosophical acumen, and loudly condemns the abuses and extravagances of the practice. “In somnambulism, the sensitive power, no longer attached to the usual organs, but appropriated by the soul itself, now operates certainly in a wonderful manner, according to other than the ordinary laws, has a clear view of objects through a series of untransparent bodies, and perceives things at a distance which no ordinary human power could penetrate. The somnambulist sometimes knows what is occurring at very distant places; nay, he not unfrequently possesses also the faculty of producing so powerful an effect upon distant persons, who are *en rapport* with him, that his image presents itself

exactly similar in kind to those which occur in the natural crisis; which latter originates spontaneously, probably in consequence of some constitutional idiosyncrasy; whereas, in the former, that peculiar state of the organism and the intellect is produced by artificial means.

Individuals have been known to manifest some symptoms of this constitutional affection in their conduct and behaviour during the whole course of their lives. Joan of Arc, the Maid of Orleans, is supposed to have been in a state of habitual crisis. Swedenborg appears to have been a natural *clairvoyant*, as is pretty evident from several passages of his life. Jacob Bechmen seems to have been in a somewhat similar state. It is not unfrequently engendered by religious enthusiasm, exaltation, mysticism, and an excessive devotion. Indeed, a

to their involuntary imagination. But not only is the sphere of their sensitive power so remarkably extended; their mental powers also frequently acquire an extraordinary augmentation, and to them it becomes mere child's play to solve questions, which they never could have answered when awake.
..... But their power of operating at a distance is not merely confined to the unusual penetration of a large space—it even extends to the future. They not only know what is occurring at the moment in places from which they are often many miles distant; but they also know and predict what will happen to others or to themselves," &c.—See *Das Verschleierte Bild zu Sais*, formerly referred to, p. 75, 76. The author also admits the other remarkable phenomena—intuition, the instinct of remedies, &c.

certain degree of this affection is probably more common than is generally imagined, and its manifestations may frequently be ascribed to eccentricity of character, or to partial or slight insanity.

The celebrated German poet Goethe tells us, in the first volume of his autobiography, that his grandfather possessed the gift of prophecy, especially in regard to matters relating to himself and his destiny, of which he gives some examples; and he mentions it as something still more remarkable, that persons, who had never upon any other occasion discovered any traces of this power, in the presence of his grandfather (*en rapport* with him) acquired that faculty for the moment, and had a presentiment of events which were, at the same time, occurring at a distance.

I have now brought under the view of my readers a variety of instances, both of the natural and of the magnetic somnambulism, for the purpose of demonstrating the reality of the more remarkable phenomena which are manifested in these extraordinary states of the organism. I request it may be considered, however, that all I have laid before them is but an inconsiderable fragment of the real evidence in the case, although sufficient, I should think, to give perfect credibility to the facts. To have adduced every case upon record—to have treated the subject in its fullest details, by dwelling

minutely upon the phenomena presented in each individual instance, would have spun out this work to a size which I never contemplated, and rendered it more tedious than instructive. Besides, a few well-authenticated cases are as good as a thousand to those capable of weighing evidence. It has been my object, in short, to present my readers with a general view of this interesting subject; and I trust I have done enough, if not to secure their complete conviction, at least to awaken their interest and their curiosity, to dispel their prejudices, and induce them to pause, and inquire, and reflect, before they proceed to form any unfavourable conclusion.* Let them not permit the extraordinary

* I regret that I am unable to give any better and more particular account of the following recent and very remarkable case, than what I have derived from a newspaper paragraph, evidently written by a person equally ignorant and incredulous. (See the *London Weekly Dispatch*, 15th March 1835.)

“ The Belgian journals contain the account of a case of somnambulism or catalepsy, of a nature so extraordinary as to merit the attention of physiologists, and, if the assertions of those medical men who have seen her be true, must shake the scepticism of the most incredulous. The patient is Sophia Laroche, a peasant girl of Virieu, in the French department of the Isère, aged fourteen; and the most ridiculously romantic circumstances respecting her are offered to the gullibility of the public. Amongst others, Dr Eymard has published an account of his visit to her during the last month. This is not a place for entering into details; suffice it to say, that the girl in question, *in a complete state of somnambulism, with her eyes bandaged, or in total darkness, can read, and distinguish by scent, voice and touch,*

character of the facts to confound their judgment, or tempt them to reject them at once, without due investigation, and an attentive consideration of the evidence by which they are supported. Let them remember, that if many of those higher phenomena, to which I lately presumed to direct their attention, be extraordinary and apparently unaccount-

persons near or at a distance ; that whilst labouring under the access, which lasts several hours, and sometimes days, she makes the most extraordinary revelations, discovers hidden and lost objects, finds her way about the town, understands Greek, Latin, penetrates people's thoughts, and answers questions upon subjects which, during her natural state, she is wholly ignorant of. Her body, during some of these periods, appears to be endowed with a peculiar lightness and elasticity, so that she may be lifted up as though she only weighed a few ounces, or as if the mere approach of the hand served to render her buoyant. These, together with many other marvels, are recounted by hundreds of persons who have attentively watched her. It appears, however, that the accesses of catalepsy are gradually diminishing as she grows older, and that there is every prospect of their becoming totally extinct as her body gains strength. In the mean time, Sophie Laroche is the wonder and admiration of the whole department of the Isere, and has furnished fresh arguments for the speculations of the disciples of Animal Magnetism."

The above is all I know of the case in question. It will be seen that the phenomena described are precisely the same as those which have been found to occur in other instances, excepting the circumstance stated of the lightness, elasticity and buoyancy of the body, of which, however, I believe other examples may be found. If the fact were once demonstrated, it might serve, perhaps, to explain some of the extraordinary powers attributed to witches, such as flying in the air, &c. The subject, therefore, deserves attention.

The following case, mentioned by Dr Abercrombie, appears

able in themselves, the remarkable organic state out of which they arise, or in which they are manifested, is no less so. Somnambulism, as a fact, like that of the fall of meteoric stones, has been known and observed for ages, and many curious instances of its occurrence have been witnessed and recorded. Until lately, however, the nature of that peculiar affection appears to have been little understood, and its most remarkable characteristic features seem to have long escaped the attention of physicians and philosophers, although of immense interest to physiological science. It was generally considered as a diseased, or, at least, as an anomalous state of the system, from which no important general inferences could be deduced; and it is only of late—since the introduction of the magnetic practice, and the consequent discovery of the possibility of its artificial production, for which last we are principally indebted to the careful and meritorious experimental investigations of the enlightened Marquis de Puységur—that its peculiar character and conditions

to have some analogy to the present. "At times, the patient," says he, "after lying for a considerable time quiet, would, in an instant, throw her whole body into a kind of convulsive spring, by which she was thrown entirely out of bed; and in the same manner, while sitting or lying on the floor, she would throw herself into bed, or leap on the top of a wardrobe five feet high."

—ACHERCROMBIE *On the Brain*, 3d edit. p. 407.

have been more correctly ascertained, and its various and interesting phenomena more accurately observed and more justly appreciated. It is a state, as my readers must now be aware, totally different from that of ordinary life—a state in which the animal sensibility undergoes an essential change—a state in which the ordinary activity of the corporal faculties is suspended for a time, and the internal instinct—the immaterial principle—perhaps the soul itself—displays its unfettered energies, independently of the material organs ;*—a state of existence which has been almost prophetically, although unintentionally, described, in the following

* “ The phenomena of Animal Magnetism are facts, which can no more be doubted, than can the reality of those meteoric stones which occasionally fall from the heavens. If there be any bridge, any connexion, between this and the other world, any transition from the temporary life of the soul to the eternal life of the spirit, these phenomena must be capable of giving us some insight into the subject. They deserve, therefore, in despite of all danger of deception, our most serious attention ; as it would be equally foolish, in the face of such amply attested experience, to deliver ourselves over to an all-denying scepticism, as to resign ourselves to a blind faith, in the case of every alleged phenomenon.

“ Somnambulism affords us at least, in its already admitted facts, the incontestible proof that higher powers reside in man, which stretch beyond the narrow sphere of the rude sensual existence, and transcend the horizon of the human understanding entangled in its abstractions.”—C. J. EISENLOHR (Privy Councillor to the Grand Duke of Baden, &c.), *Irene, &c.* Carlsruhe, 1831. Pp. 226–228.

beautiful lines of one of the most philosophical of our living poets ;—a state,

“ In which the burthen of the mystery
 In which the heavy and the weary weight
 Of all this unintelligible world
 Is lighten’d : that serene and blessed state
 In which the affections gently lead us on,—
 Until, *the breath of this corporeal frame,*
And even the motion of our human blood
Almost suspended, we are laid asleep
In body, and become a living soul :
While with an eye made quiet by the power
Of harmony, and the deep power of joy,
*We see into the life of things.”**

It cannot fail, I think, to be perceived, with what remarkable, what wonderfully minute accuracy, this poetical description tallies with the phenomena which actually occur in the magnetic somnambulism. In that state, we appear to forget all knowledge of our previous existence—

“ the burthen of the mystery,
 the heavy and the weary weight
 Of all this unintelligible world
 Is lightened ;”

the ordinary functions of the animal organization are suspended—

“ we are laid asleep
 In body ;”

the mind becomes divested of the ordinary cares

* WORDSWORTH ; *Lines on revisiting the Banks of the Wye* ; in my humble opinion one of the finest pieces of blank verse in the English language.

and anxieties of the world, and is unusually composed, serene and cheerful; while the intellectual faculties, free and unfettered, are exercised with an extraordinary degree of vigour and acuteness.

“ We become a living soul.”

At the same time, the eye of the mind, the internal power of vision, is wonderfully strengthened and enlarged, and seems unconfined within the narrow limits of space and time;—we do not see objects in a merely superficial manner—we penetrate beyond external nature—

“ We see into the *life* of things.” *

It must be quite evident, that the phenomena of such a state of existence as that described can-

* Dr Jung-Stilling, in his *Theory of Pneumatology*, discriminates and contrasts the natural and the magnetic states in the following manner :

“ The human soul is present in every part of its body: it is conscious of itself in every part, according as the organs of the body give occasion; it sees with the eyes, hears with the ears, smells with the nose, tastes with the tongue and palate, and feels with the whole skin, or the whole superficies of the body. All this it has in common with the animal soul; but there is something more superadded, which gives it a rank far different and more elevated than the brutes; it is an intelligent being,” &c.—“ The human soul is directed, in the natural state, by the nerves, wherever feeling, consciousness, and motion are necessary. It appears to have the principal seat in the brain; but, by magnetising, it is more or less detached from the brain and nerves, and consequently becomes, more or less, a free agent;

not be explained by the laws and conditions of ordinary life—the physiological principles which are applicable in the one case, are totally inapplicable

for, as the clear-seeing somnambulist does not see with the eyes, but out of the region of the pit of the heart, and as this is always the case, without exception, it is clear from hence, that the human soul of itself can not only see without the aid of the body, but also so much clearer than in its fleshly prison, nor does it stand in need of our material light; for magnetic sleepers read what is laid on the pit of the heart, and the contents of closed letters. Nay, they can read at a distance, when the book or writing is separated from them by dense and opaque bodies, as soon as that which is to be read is held by a person with whom the somnambulist stands in psychical contact or connexion."—"The human soul, in this state, not only sees but also feels every thing more acutely than in its natural waking state, without requiring for this purpose any one of the bodily senses; but it is very remarkable, that it is not susceptible of the smallest thing belonging to the visible world, except when brought into a psychical contact, connexion, or *rapport*," &c.; "the somnambulist can then, particularly when he is in a very exalted and clear-sighted state, perceive every thing that the person thinks, suffers, feels, and enjoys, who stands in connexion with him."

"The magnetic facts and experiments above stated prove, to a demonstration, the existence of this spiritual, luminous body; they further prove, that this human soul has need of its gross and animal body, solely with reference to its earthly life, in which man must necessarily stand in reciprocal operation with the sensible or material world; but that it is able without it to think and feel, and to act upon others, both near and at a distance, in a much more perfect manner, and is also more susceptible of suffering and enjoyment. This conclusion must unquestionably arise in the mind of the impartial observer, when he assembles all the various exhibitions which magnetism produces, and then calmly and rationally reflects upon them."

in the other.* Yet every system of human physiology which declines to investigate these facts upon their own appropriate principles, must necessarily be imperfect. Indeed, an impartial and attentive study of the phenomena of somnambulism cannot fail to lead us to conclusions highly interesting to the philosophy of man. A good deal has been lately done for this psychological branch of physiology upon the Continent: in this country it is still little more than a blank—a sheet of white paper; and even the study of it is most unaccountably discouraged. The sun of Animal Magnetism, as an enlightened foreigner remarks, has not yet arisen in the British dominions. May his animating beams speedily dispel the darkness that envelopes those recondite but most important truths, to which our eyes have hitherto been blind, or which, at present, we only see dimly reflected by a remote mirror! †

* M. Deleuze has very justly observed, that the antagonists of Animal Magnetism wish to explain a peculiar class of phenomena by the same theory they employ to explain phenomena of a totally different class. By pursuing such a method they never can succeed.

† It is a rather remarkable but an indisputable fact, that, in modern times, and especially in this country, the term Science has become totally perverted from its original and genuine signification, and that it is now limited almost exclusively to Physics. All our Royal and Philosophical Academies and Societies are entirely occupied with objects of mathematical and physical research: Mental and moral philosophy are utterly neglected.

I formerly mentioned, that, whatever differences of opinion may exist in regard to theory, the reality

Were it proposed to read before any of the Societies alluded to a paper on Animal Magnetism, the proposition would probably be almost universally scouted, and the proposer laughed to scorn as an *ignoramus* or a visionary, although upon the Continent the most eminently learned bodies have not hesitated to encourage the investigation of the subject, without any loss of character, or feeling of degradation. With us, the apophthegm of the poet,—

“ *Homo sum, nihil humani a me alienum puto,*”

is quite out of fashion—our philosophers no longer admit that

“ The proper study of mankind is man”—

all research is directed towards external nature—and mind is considered altogether subordinate to matter. In an article in the *Edinburgh Review*, formerly noticed, “ *the follies of Animal Magnetism*” are actually placed in marked contrast with the principles of *science*—meaning Physics, I presume; and no term of contempt is sufficiently strong to designate the absurdity of all investigations into the phenomena of mind.

Now, there is no man more willing than myself to acknowledge the immense advantages which society has derived from the application of the principles and discoveries of physical science to the arts of life—to the physical wants of the species; but I cannot, I never will, admit that Physics constitute the whole of science, or that they are best calculated to promote the great ends of our being. I cannot consent to abandon mental physiology and philosophy—to relinquish the study of the spiritual and moral nature of man—to sacrifice mind to matter and mechanism. Nor can I allow that such pursuits are subordinate to those of the mathematician, the chemist, the astronomer, the botanist, or the geologist. I am quite aware that the study of Animal Magnetism is not calculated to assist us in discovering the longitude at sea, to enable us to apply and to regulate the action of steam, or to be of service to us in the building of bridges, or the construction of rail-

of the phenomena of Animal Magnetism is now universally admitted by all impartial, competent, and intelligent inquirers upon the Continent. *There*, indeed, there can hardly be said to be two opinions upon the subject amongst those enlightened men who have bestowed any attention upon it. Even those professional gentlemen who, from some vague notion of imaginary dangers, have manifested a spirit of hostility to the practice—as in the case of Dr Stieglitz and others—not only do not dispute, but, on the contrary, fully admit the facts. Indeed, it would be strange were they to attempt to deny the existence of things which they have almost a daily opportunity of witnessing. I have no doubt that the same will be the case in this country, as soon

roads. But if it be true that this doctrine involves the discovery of new therapeutic principles;—if it has developed agencies and susceptibilities in the human constitution hitherto unknown or disregarded;—if it has already opened up many new and interesting views of the physical and moral nature of man, their connexion and reciprocal action upon each other;—if it has given us a clearer insight into the motions of the immaterial principle which animates and actuates the material organism;—if it has already done all this, I say, and if it promises still farther to enlarge our knowledge, and to render us “wiser, happier, and better,” by what just right shall it be arbitrarily excluded from the circle of the sciences?

See some excellent observations on the study of physical and moral science, in Dr Hampden's second Lecture on the study of Moral Philosophy, recently published.

as the subject becomes better known and appreciated—as soon as our professional gentlemen and men of science shall have recovered from the surprise occasioned by the apparent novelty and the extraordinary character of the phenomena—as soon as they shall be induced to abandon their prepossessions, to examine the matter with philosophical impartiality, to look the phenomena boldly and honestly in the face, and submit to be taught the secrets of nature by patient investigation, careful experiment, and accurate observation.

CHAPTER XXVIII.

WHEN we have once obtained possession of a new and important series of facts, and become perfectly assured of their reality, it is an unquestionably useful task to endeavour to ascertain in what degree they may be considered as extending or modifying our previously acquired knowledge, by tracing the results to which they directly and legitimately conduct us. This proceeding, indeed, is absolutely necessary, in order to arrange and systematize our scientific acquirements.

Although hostile, as may have been observed, to all vague and premature theories upon scientific subjects—which more frequently tend to retard than to advance our progress in knowledge—and still more to all monopolising and exclusive systems of science; I would by no means be understood to dissuade the philosophical inquirer from attempting that cautious method of induction and generalization introduced and recommended by Lord Bacon, and since prosecuted with such re-

markable success in several of the departments of Natural Philosophy ;—that method which consists in collecting kindred facts, comparing them with each other, remarking their analogies, discriminating their differences, and grouping them together, with a view to discover the common *nexus* that exists between them, the principle upon which they jointly depend, or, at least, the general law or laws under which they may be all comprehended. On the contrary, I consider it exceedingly useful and praiseworthy to endeavour to extend and systematize our knowledge in this way ; for, as Burke long since observed, “ by looking into physical”—he might have added moral—“ causes, our minds are opened and enlarged ; and in this pursuit, whether we take or whether we lose the game, the chase is certainly of service.” This method I consider equally applicable to moral as to physical science ; not indeed to that metaphysical philosophy which delights in airy and empty visions, and spurns the support of facts ; but to those well-regulated intellectual speculations which are founded upon an accurate observation of the actual phenomena of nature. I am also of opinion, that the time has now arrived, when we may safely, and perhaps successfully, apply this method to the phenomena of Animal Magnetism—since the industry of the pioneers of that doctrine has already supplied us

with an abundant store of well-attested facts ; and I shall now take the liberty of pointing out to my readers the way in which, as it appears to me, the merely philosophical part of the investigation might be conducted with the best prospect of success.

I formerly alluded to a theory by which most of the ordinary phenomena of Animal Magnetism might be, in some measure, accounted for, upon the supposition of a certain transference of vital power from one subject to another, through the medium of the nervous system.* This theory, however, besides being founded upon an hypothesis which, however probable, may be considered as not yet satisfactorily demonstrated, appears quite incapable of explaining the higher magnetic phenomena. Indeed, it seems utterly impossible to assign any satisfactory reason why sleep and somnambulism should be, as they certainly are, produced by the processes employed. We only know

* It would constitute one of the most remarkable incidents in the whole history of science, should it be ultimately demonstrated and admitted, that an universal ethereal fluid pervades all nature, producing, in its different modifications, and in its various combinations with matter, the phenomena of Light, Heat, Motion, Magnetism, Electricity, &c. To this point, however, although there is yet no sufficient demonstration of the fact, recent physical investigation seems rapidly tending ; and it may ultimately realize one of the boldest and apparently most fanciful hypothesis of a certain class of philosophers, who have been perhaps too rashly condemned as mere visionaries and mystics—See Appendix, No. III.

that, in many instances, the one has been found to follow the other, without the presence of any other perceptible cause; and this circumstance, however unaccountable it may be, is sufficient to justify us here, as in other sciences, in assuming that there must be some connexion between them; and this assumption, provided we are assured of the facts, cannot be invalidated by any argument whatever founded upon the alleged insufficiency of the cause to produce the effects.* As in this case, however, we are incapable of discovering and pointing out the precise operative principle, it only remains for us to classify the phenomena, by ascertaining the particulars in which they agree, and the analogy that exists between them and other constitutional affections, in order to enable us to comprehend the nature of these affections, and, if possible, the cause upon which these phenomena necessarily depend.

We have already seen that, independently of their sanative efficacy, the usual effects of the mag-

* I do not conceive that we are entitled to consider that, in these cases, the effects must be dependent solely upon the manipulations employed, or to reject, without adequate investigation, those other elements which are held by the Animal Magnetists to be operative in the magnetic processes. For example, it is maintained that the will has a powerful influence in determining the magnetic phenomena. This is an alleged fact which is capable of being demonstrated by experience; and my own is entirely coincident with the results noticed by others.

netic processes are the production of sleep and somnambulism, the latter state being obviously a more profound degree of the former. The phenomena invariably observed in somnambulism, when the crisis is perfect, are—insensibility of the corporeal organs, exaltation of the intellectual faculties, a transference of the sensitive powers to other than the usual parts of the nervous system, intuition, prevision, prediction, and the total oblivion, when restored to the natural state, of all that occurred during the continuance of the affection. Let us, then, endeavour to trace the analogy between these phenomena and those of another state, which is much more familiar to us.

The philosophy of Sleep and Dreams, which is calculated to throw considerable light upon this branch of inquiry, has, at various times, engaged a good deal of attention, and been the fruitful source of much ingenious speculation ; but I think it may be doubted whether any generally satisfactory theory has been hitherto propounded upon this subject, to guide us in our attempts to account for the phenomena upon intelligible and correct principles.* One reason, and indeed the principal

* “ Aristotle, who hath written a singular tract on sleep, hath not, methinks, thoroughly defined it ; nor yet Galen, though he seems to have corrected it ; for those noctambuloes and night-walkers, though in their sleep, do yet enjoy the action of their senses ; we must, therefore, say that there is something in us

one, for this failure, appears to me to be, that philosophers have not sufficiently generalized their views, but have founded their speculations upon far too limited an induction of facts, and then attempted to explain these facts upon the principles of some preconceived hypothesis. Some part of their errors, too, may probably be ascribed to that material tendency which, as I formerly observed, has long been conspicuous in all our philosophical

that is not in the jurisdiction of Morpheus ; and that those abstracted and ecstatic souls do walk about in their own bodies, as spirits with the bodies they assume, wherein they seem to hear, see, and feel, though indeed the organs are destitute of sense, and their natures of those faculties that should inform them. Thus, it is observed, that men sometimes upon the hour of their departure, do speak and reason above themselves. For then the soul being near freed from the ligaments of the body, begins to reason like herself, and to discourse in a strain above mortality."—Sir THOMAS BROWN, *Religio Medici*.

The latest English work I have seen upon this subject is the second edition of the "Philosophy of Sleep," by Mr Macnish, a most ingenious and entertaining volume, in the perusal of which it is impossible not to admire the industrious research and talent of the author. But I cannot agree with this learned gentleman in his attempt to account for the phenomena upon *phrenological* principles. Phrenology itself, after long attention to the speculations of its votaries, I never could view in any other light than as a mere hypothesis, founded upon postulates and assumptions, built up with fanciful observations, and terminating at length in a *petitio principii*. It always appeared to me to be entirely destitute of the support of any positive and unambiguous facts, and to owe its temporary reception to the introduction of a new and imposing nomenclature, and to the ingenious sophistry of its advocates. Every attempt to apply

systems. In the following few observations, I shall endeavour to avoid both of these errors, by adapting my explanations as strictly as possible to the character of the phenomena.

Sleep appears to be the natural state of repose of the corporeal organism. I say, of the *corporeal organism*, because it cannot be conceived that the soul itself—the immaterial principle—ever sleeps, otherwise, it were not sleep, but death. In *dreaming*, we occasionally perceive the soul—the immaterial and inorganic principle—struggling, as it were, to manifest its independent activity without the co-operation of the bodily organs. It is probable, if not certain, that all sleep is accompanied with dreaming, that is, with the exercise of spiritual energy; but in the case of the soundest sleep, these dreams—the manifestations of this spiritual activity—are not remembered; there has been no co-operation of the corporeal organs, and, therefore, no adequate impression has been made upon the material part of our constitution; in like manner,

this *science* to the explanation of phenomena seems to consist merely of a translation of one language into another, leaving the enquirer just as wise as he was before. I am surprised that an individual so acute as Mr Macnish should not have perceived that, in resorting to Phrenology for elucidating the phenomena of Sleep and Dreams, he was only giving an example of the *obscurum per obscurius*.

as we have seen that the operations performed, and the conversations held, in the state of perfect somnambulism, when the sensibility of the corporeal organs is altogether suspended, are entirely forgotten when the individual awakes, and is restored to his natural state. In sleep, the corporeal organs are merely more or less profoundly dormant, but still sensible to external impressions, when sufficiently strong to affect them; in somnambulism, on the other hand, they are in general entirely deprived of their sensibility for a time; as has been seen in the case of the Breslau rope-maker, in that of Madame Plantin, and, indeed, in almost every case both of the natural and of the magnetic somnambulism. It appears to be only when the natural sleep is unsound, or disturbed, that the dreams are remembered, and that they recur to the recollection with more or less distinctness, in proportion to the degree in which the material organs have been affected. The sound sleeper declares that he never dreams; that is to say, he has no recollection of having dreamt, his sleep having been so profound. On the other hand, the unsound sleeper continually dreams, and he has also a distinct recollection of his nocturnal reveries when awake. This circumstance proves that the corporeal organs have only been in a state of partial or imperfect repose.

Upon this subject of the constant activity and restlessness of the soul, during the temporary repose of the corporeal sensibility, I find the following coincident observations in the works of that eminent divine, Bishop Hall. "I do not more wonder," says that distinguished prelate, "at any man's art, than at his who professes to think of nothing; and I do not a little marvel at that man who says he can sleep without a dream; for the mind of man is a restless thing; and though it give the body leave to repose itself, as knowing it is a mortal and earthly piece, yet itself being a spirit, and therefore active and indefatigable, is ever in motion. Give me a sea that moves not, a sun that shines not, an open eye that sees not, and I shall yield there may be a reasonable soul that works not. It is possible that through a natural or accidental stupidity, a man may not perceive his own thoughts (as sometimes the eye or ear may be distracted not to discern his own objects); but, in the mean time, he thinks *that* whereof he cannot give an account; like as we many times dream, when we cannot report our fancy. Since my mind," adds the Bishop, "will needs be ever working, it shall be my care that it may always be well employed."

Upon the same principles, too, we may explain the frequently fantastic, absurd, and incoherent

nature of our dreams. The union and harmony between the soul and the body, although not actually dissolved, is partially interrupted by sleep; the latter is no longer capable of co-operating effectually with the former. Hence, in imperfect sleep, when the sensibility is enfeebled but not annihilated, the soul is still encumbered by the partial wakefulness of the body, and, at the same time, and for the same reason, it is incapable of freely exerting its own independent energies. On the other hand, when the sleep is profound, when the corporeal sensibility is completely dormant, the energies of the soul are set at liberty and freely exercised, without any co-operation or control of the body, but of this exercise there can be no recollection in the waking state, because, as formerly observed, no adequate impression has been made upon any material organ.

Moreover, the magnetic sleep differs from the natural in this, that, in the former, the organic repose is generally more sound, the corporeal organs are in a state of greater inactivity. So far as I am aware, there is no instance of dreaming during the magnetic sleep; that is to say, there is no distinct recollection of any thoughts that may have occurred to the mind during its continuance. All that a patient, when awakened out of this state, can remember of having experienced, is a mere

vague feeling of certain pleasurable sensations. It appears, therefore, to constitute the transition-state from one mode of existence to another; and this transition is completed in somnambulism, by the total suspension or temporary annihilation of the corporeal sensibility—in a far greater degree than that which takes place in the ordinary sleep—the undisturbed activity of the soul, and consequently the manifestation of a life purely spiritual and inorganic.*

In following out this investigation and comparison of the phenomena of the natural and the magnetic sleep, and of sleep and somnambulism, I have little doubt that we should be enabled to trace, al-

* The subject of sleep and dreams, omens, sympathetic forebodings, second sight, &c. are intimately connected with the doctrines of Animal Magnetism; but my limits will not permit me to enter fully into it at present. There are various well-authenticated phenomena which prove the reality of these occurrences, and justify the assertion of the poet, that

“ Dreams full oft are found of real events

“ The forms and shadows.”

The same may be said of omens, presentiments, &c. It is difficult to reject the whole of the evidence upon this subject, and absolutely to deny that, upon some occasions, and in certain circumstances,

“ Coming events cast their shadows before.”

Animal Magnetism affords us the means of giving a natural explanation of these phenomena; and the whole subject deserves to be philosophically investigated, with a view to dispel superstition on the one hand, and scepticism on the other.

though in a more faint degree, in the former, as in the latter; the distinction between the material organism and the vital or spiritual principle which animates it ; and thus succeed, at length, in withdrawing a portion, at least, of that veil, hitherto deemed impenetrable, which has so long enveloped some of the most important secrets of nature, and concealed from our view the noblest and most interesting element in the constitution of man.

CHAPTER XXIX.

AFTER the whole materials for this work had been collected and arranged, my attention was directed to a series of physiological lectures delivered in the University of Paris by M. Andral, in some of which the author discusses the subject of Animal Magnetism. The particular lectures to which I allude are the 13th, 14th, and 15th of the series, and they were translated and published in the *Lancet* for 1832-33, vol. iii. pp. 769, &c. The opinions of a professional gentleman of such eminence as M. Andral upon such a subject as this, when given with candour and sincerity after due investigation, would of themselves be very valuable; but I consider them as still more important when indicating the great change which has lately taken place in the sentiments of those medical men who had previously viewed the phenomena with deep suspicion and inveterate scepticism.

In his 13th lecture, M. Andral admits that the state of *ecstasy*, or somnambulism, may either be spontaneous, or it may be produced in one individual,

in consequence of an influence exercised on him by another. "In entering," he says, "on the consideration of this much-debated and, I must say, deeply-interesting topic, I have to recommend you to follow my example, in determining to separate *facts* from the *explanation* of facts, in endeavouring to ascertain, in the first place, what it is that is proved, and then seeking to unravel whatever mysteries that presents; and in remembering that a thing may not be the less true, because it is not included in the category of circumstances which the state of human science, or the extent of the limits of the human intellect, enables us to comprehend, and compels us to recognize."

"Many facts," he states, "are on record, which permit no one to entertain the least doubt as to the possibility of the spontaneous occurrence of this state" (*ecstasy*); and he relies exclusively upon the one instance which occurred at the Clinic of Bologna, published in the *Gazette Medicale* of Paris, of the 24th of November 1832;* "as it contains all the elements of authenticity, and has been observed by medical men of high skill and reputation."

M. Andral then asks, "Can the state thus described be produced in one individual by any influ-

* This case will be found, along with a variety of others, in the Appendix, No. II.

ence exercised by another?" This question the author also answers in the affirmative, relying solely upon the following evidence. "In the inaugural thesis of M. Fillazzi (Fillassier), defended before our Faculty of Medicine, there is the narrative of an occurrence bearing irresistible proofs of its authenticity, and which seems to me sufficient to decide the question. The facts are particularly curious. The author, then an *interne* at the Hotel Dieu, and totally sceptical regarding the powers ascribed to this mysterious essence, this asserted magnetic fluid, formed, for amusement, the plan, with a brother *interne* equally incredulous, of submitting this friend to the manœuvres of the magnetizers, in the manner M. Rostan describes. The *passes* were continued for about twenty minutes without any remarkable effect, but at the expiration of that time, the young man began to yawn, his eyelids grew heavy, and closed involuntarily; he attempted to shake off the torpor in vain; his respiration next became accelerated, his head fell on his shoulders, and he uttered a sardonic laugh of indescribable expression. 'We thought,' says the narrator, 'that he was amusing himself at our expense; but in a little, what was my horror when I saw his fingers turn blue, his head fall powerless forward, when I heard his respiration rattling like a dying man's, and felt his skin as cold as death'

itself! I cannot find words to describe my sufferings. I knew not what to do. Meanwhile, all these horrid phenomena increased in intensity. I tremble at the recollection of what I saw ;—there lay my friend, my victim, devoid of the aspect of life, in a state of complete and terrible collapse. With his hand clasped in mine, in a state of agony no tongue could tell of, I laid him on a bed, and waited the result in a state of mind I can never forget. In a quarter of an hour he recovered, and, exclaiming that in the ecstasy he had experienced sensations of extreme delight, begged me to recommence the passes. I did so with less apprehension, and again the somnolency proceeded. The collapse, however, was less profound and terrific, and in some minutes he suddenly awoke with the exclamation : ‘What happiness is this ! ’ ”

Upon the strength of these two solitary instances, M. Andral decides in favour of the spontaneous development of this ecstatic state, and of the possibility of its production by the influence exercised by one individual on another. “ As to their authenticity,” he remarks, “ it is beyond dispute. The statements are entitled to as much credence as any thing can be which we have not ourselves seen.” M. Andral then alludes to the theory of *touching, imitation, and imagination*, which he justly considers inadequate to explain the phenomena.

The last case, he confesses, is "an embarrassing one, at any rate, for the *imagination* hypothesis—both the operator and the patient being medical men, both sceptics, and both persuaded that nothing peculiar could happen."

"So far, then, as we have gone," continues M. Andral, "we find that the operation of known causes and influences is by no means adequate to explain the phenomena which are proved to have been induced in persons thus treated. We must, consequently, either not attempt this kind of explanation, or else we must admit the existence of a *force*, a power, which has been called *magnetic*. *The name is of no consequence whatever.*"

After alluding to the earlier history of the magnetic practices, M. Andral proceeds: "Again, however, I must press upon you, gentlemen, that there are numerous facts which prove that this subject deserves your serious attention. So strong are they, that many men of high information and discernment have not hesitated to profess their faith in the existence of the asserted principle. At Berlin, they have even established a *magnetic clinic*, for the purpose of investigating the matter experimentally, and applying it successfully to the treatment of disease. Now, is all this delusion?"

After arguing the matter for some time *pro* and *con*, M. Andral seems to think that the truth may

probably lie between the two extremes of plenary belief and absolute scepticism. But although M. Andral occasionally speaks of evidence, he is manifestly ignorant of almost the whole of the proofs by which the magnetic doctrines have been incontrovertibly established, and generally supports his belief of a particular fact upon one solitary instance, when additional and easy research might have supplied him with hundreds.

Some of his general observations upon the subject, however, are exceedingly just and apposite. "We are apt," says he, "for example, to start with the idea that a thing is impossible. This is wrong, it is irrational, it is unwise; it leads us to reject *proofs* of these facts, because these proofs do not agree with our own previous notions. We must not be so proud of our own powers as to fancy that analogy, that induction, are omnipotent in the discrimination of truth, neither must we measure possibility by the standard of our own restricted notions. How many are the things which we now readily admit, and which but fifty years since were denied? How many things do we see daily done which we but lately deemed impracticable?" The learned lecturer then cautions his pupils, on the other hand, against an excess of credulity. "Too great a facility in belief is as great an evil as too rigid a tendency to distrust. We must therefore

subject the asserted facts to a rigorous scrutiny," &c. But in proceeding to such a scrutiny, it is absolutely necessary that we have all, or, at least, a great part of the evidence before us, in order to enable us to arrive at a satisfactory conclusion; whereas M. Andral, with the utmost honesty of intention, no doubt, seems to be possessed of only one or two recent instances of certain magnetic phenomena, and these by no means the most important. Upon such a scanty and very partial view of the evidence, however, it is manifestly unjust to found any general conclusion. It is somewhat singular that M. Andral should not even once allude to the excellent work of his countryman M. Deleuze. Of the other numerous French and German writings upon this subject, by medical authors and others, he seems to be totally ignorant.

In considering the phenomena of Animal Magnetism, M. Andral admits, in the magnetic somnambulism, *1st*, The fact of "the abolition of all sensibility by the ordinary organs of perception;" and, *2dly*, "The obliteration from the memory of all circumstances occurring during the ecstasy;" while he considers the asserted connexion between the magnetizer and the magnetised as not proved. The admissions of M. Andral, however, are of great importance, as evincing his conviction of the influence of the treatment.

In his 14th Lecture, M. Andral proceeds with his strictures on the alleged phenomena of Animal Magnetism. He admits that one person is capable of producing certain symptoms upon another “ by peculiar touches, passes, or manual manœuvres ;” but he “ sees no fact sufficiently decisive and authenticated, to establish the intermediate agency ;” that is to say, the effects alleged to be produced through the intervention of other persons and things. Here, I am sorry to observe, M. Andral discovers a very imperfect knowledge of the nature of the magnetic processes, which do not consist altogether of “ *peculiar touches, passes, or manual manœuvres.* ” The advocates of that practice ascribe much efficacy to the will and intention of the operator, and of this M. Andral says nothing. Here, too, as elsewhere, the lecturer betrays great ignorance of the facts, as well as of the overpowering evidence by which their existence has been demonstrated ; but the reality of the facts can only be established or refuted by a due consideration of the whole evidence, thoroughly sifted and weighed.

In treating of the alleged cure of various diseases by means of magnetism, M. Andral alludes to some curious facts. “ Now, all this I think very probable. A vast number of diseases, especially those strictly nervous, disappear completely, when the mind is powerfully excited.” In mag-

netism, however, as at present practised (whatever may have been the case in the days of Mesmer and his immediate followers), there is absolutely nothing that can be supposed capable of producing any such powerful mental excitement at all; and it is a great mistake to suppose that the treatment is peculiarly or exclusively adapted to nervous diseases. The best and most experienced practical magnetizers, indeed, hold an opinion precisely the reverse of this. M. Andral proceeds : “ Intermittent fever even has thus been cured ; and it is no less whimsical than true, that, at one time, the repetition of the uncouth and unmeaning word—*abracadabra*—accompanied with various gestures and imposing parade, was deemed a sovereign cure, *and I believe it was so*, for a great number of nervous disorders. *Nay, it is certain, even that not a few diseases of the circulation, and of the organs of secretion and nutrition, were thus either perfectly cured, or at any rate materially modified.*” *

Now, the sceptical opponents of Animal Magnetism have always appeared anxious to bring forward cases of cures effected in the manner described above, as if these afforded any solid grounds

* The learned T. Bartholinus said, “ Why shall I condemn the cures effected by gestures, characters, words, and other natural actions, without the aid of superstition, although our feeble reason comprehends not how these cures are produced, *for they are demonstrated by experience.*”

for invalidating the doctrine they opposed. But because diseases may have been cured by one mode of treatment, that circumstance, of itself, can afford no argument against the possibility of their being also cured by another mode of treatment; in either case, we must just be content to fall back upon the evidence. Besides, it is by no means clear, that the two methods are not analogous to each other, and may not depend upon the same principle. The advocates of the doctrine in question, indeed, have neither any desire nor any interest to deny the authenticity of such facts, when brought forward by their opponents; on the contrary, they rely upon these very facts as evidence in favour of the opinions they maintain. M. Andral fully admits that cures have been effected in the manner he describes; but is he quite certain that the cures to which he alludes were not produced in consequence of some more or less perfect modification of the magnetic treatment?

M. Andral continues: "But what seems special to this state"—that of the magnetic ecstasy or somnambulism—"is, that the magnetised person is asserted to be capable of maintaining a certain kind of connexion with the external world, while otherwise completely insensible. Thus, he has been known to hear and answer connectedly various questions and observations proposed to him

by one individual, while he remains insensible to the loudest noises, the most exciting remarks of all the other persons about him. It is difficult not to admit that this has happened in several cases. I have not seen the fact myself, but I have, in the course of reading, met with several instances of it so well authenticated, that I should not be justified in refusing to believe it." This admission does not seem very consistent with the author's previous denial or disbelief of the alleged connexion, or *rapport*, between the operator and the patient. After noticing some other remarkable features of the ecstatic crisis—such as the occasional exaltation of the sensibility, hallucinations, an extraordinary development of intelligence, increased muscular energy, &c.; M. Andral proceeds to consider the *instinct of remedies*, with which the magnetic somnambulists and others are said to be endowed. Upon this subject, M. Andral is unusually decided and peremptory, but, unfortunately, his opinion is directly in the teeth of the evidence. "Now," says he, "in the whole of the statements on this point, I must confess that I can again see nothing but the *acme* of imposition, juggling, and quackery."

This, I am aware, is a point upon which medical gentlemen, who have not sufficiently studied the

subject, are peculiarly sensitive; yet here I do not hesitate to avow, that, although not a member of the profession, I am directly at issue with M. Andral; and as this is a fact which, like all others, must be ultimately decided by proof, I would refer this gentleman, and the public who are to judge between us, to the evidence adduced in this work.* Does M. Andral really mean to include the Doctors Hoffmann, Wienholt, Hufeland, Olbers, Brandis, Nasse, Sprengel, Cabanis, Georget, Virey, with a large proportion of the most eminent physicians in Paris, among his impostors, jugglers, and quacks? For my own part, I do not hesitate to declare, that, explain it as we may, I am acquainted with no fact in physics which has been more satisfactorily demonstrated than the one he thus questions.†

* Whatever may be said for or against it, the *instinct of remedies* is no longer mere matter of opinion, but a fact which rests upon the most ample and incontrovertible evidence. It is manifested more frequently in somnambulism, than in other states of the organism; and even Cabanis, with all his philosophical scepticism, bears his testimony, as an eye-witness, to the fact, that some patients have been known to point out, with wonderful sagacity, the remedies most appropriate to their respective complaints.

† “In general, almost all somnambulists possess, during their critical sleep, the faculty of recognizing their own complaints, and those of others, of determining their nature, their duration, and their accidents; of declaring whether they are curable or not; of predicting of what nature the crises shall be, the man-

At the conclusion of the 14th, and commencement of the 15th Lecture, M. Andral expresses his doubts with regard to the reality of other alleged phenomena of the magnetic somnambulism, especially that of vision, without the assistance of the eyes. Upon this point I need say nothing here, having already placed the evidence upon it so fully before the public, as to enable every intelligent individual to judge for himself.*

I regret to find, that, in his 15th Lecture, M. Andral has, I trust unintentionally, entirely misrepresented the interesting experiments made by Dr Petetin of Lyons. He alludes to only one case, of which, however, he admits that "the narrative in itself bears all the characters of good faith in the narrator, and truth in the details." But he afterwards remarks, that "Petetin's testimony is corroborated only by the evidence of the husband, sister, and sister-in-law, of the cataleptic female. No strangers were present, the observations were not repeated with sufficient frequency, and, above

ner in which they will take place, the precise moment of their appearance; of pointing out how they may be best promoted, seconded, sustained; finally, of prescribing all the means proper to be employed in order to effectuate a cure."—*Mémoire sur le Fluide Vital, &c.* in the *Biblioth. du Magnetisme Animal*, t. ii. See also the opinions of Brandis and others, formerly quoted, and the numerous instances I have adduced.

* See Appendix No. II., and almost every case of somnambulism.

all, by different individuals." Now, in the paper referred to in the last Note, the reader will find that Petetin's experiments were made upon several patients, and that they were witnessed and repeated by all the professional and learned gentlemen in Lyons and the neighbourhood, who were perfectly satisfied of the reality and correctness of the results. Moreover, it will be seen that these results were confirmed, in all essential points, in a number of subsequent experiments.

M. Andral afterwards refers to some other cases, to which, as it appears to me, he makes some rather quibbling and evasive objections. These I shall pass over, as I consider the fact in question, viz. the transference of the faculties—to have been satisfactorily demonstrated by the most ample and unimpeachable evidence.* I must, however, take

* This, indeed (the transference of the faculties), is a phenomenon which is now considered by all who have investigated the subject as having been placed far beyond the reach of scepticism. Professor Biunde de Treves, in all other respects an opponent of Animal Magnetism, speaks of the phenomenon in question in the following terms :

" If we pay particular attention only to those narratives which may be considered most authentic, thus much only can with probability be deduced from them, that, in the state of magnetic sleep, the senses (the inferior spiritual nature in man), in the exercise of their functions, are not necessarily bound down to the mediation of those organs, which are necessary to them in the waking and normal state. Such a transference of sensation to other parts of the nervous system must always ap-

some notice of the two last cases referred to by M. Andral, as even he, with all his scepticism upon this point, appears to attach considerable importance to them, and they have not yet been laid before my readers. They are not at all necessary to my demonstration, but perhaps they may make a similar impression upon other sceptics as they appear to have done upon the ingenious lecturer.

“The sixth case,” says M. Andral, “is the most serious of all. It is described by M. Rostan—a high authority—in his *Système Medicale*. M. Féru was present at the experiment. A watch was held behind the individual’s head. ‘I see,’ said he, ‘something that shines!’ ‘What is it?’—‘A

pear very remarkable and extraordinary; but the extraordinary and remarkable may be perceived in many other phenomena. Thus, magnetized persons have read perfectly well folded letters placed on the pit of the stomach. In this, however, there is nothing wonderful. For the soul of man is a power which, in the normal state of health, can only exercise its functions through the medium of the sensitive organs, but manifestly only because it stands in as determined relations to the body as to its organs. Should this relation be changed in an abnormal state, which we must conceive to be possible; then, seeing, hearing, smelling, tasting, &c. as energies of the soul, may be manifested in other ways and by other means, in a manner with which we can never become sufficiently acquainted, because, in such states, the individual is incapable of reflecting upon them, and mere external experience cannot lead us sufficiently into the depth of the matter.”—F. X. Biunde, *Versuch einer systemat. Behandl. der empirisch. Psychologie*, i. b. p. 436.

The author is a complete sceptic in regard to all the other extraordinary magnetic phenomena.

watch.' He was asked the hour, and replied exactly. Two different watches were tried. He was equally precise. The watches were taken out of the room, and the hands altered. He still told the hours and minutes expressed on the dials. (*Marks of attention.*) Gentlemen, this is a remarkable fact. I wish I had seen it. (*A laugh.*) Had I seen it, I certainly would have believed it; but as it is, the experiment demands repetition."

"The last case I shall mention is recorded by M. Fillazzi, in the thesis I quoted in the first of the lectures on this subject. The subject of the experiment was a female. She told the hour on a watch held to the back of her head. Nay, more, the watch having been taken into a dark apartment, and the hands altered, she again described the time they indicated, with exact precision, and this experiment was repeated innumerable times, the operator himself not knowing the changes of the hands until the answer was given. (*Surprise.*) Gentlemen, with respect to this narrative, I am far from considering it very decisive. I want to know who took the watch from one apartment to the other. (*Some murmurs among the auditors.*) Gentlemen, this precision is very necessary. Remember, we are investigating a very serious subject, respecting which nothing must be admitted, if it be susceptible of rational doubt."

The above is all that I deem of importance in the lectures of M. Andral. The author, I understand, enjoys great, and, I have no doubt, deserved reputation in his profession ; and I believe him to be a perfectly honest and honourable man. But, as I formerly observed, it is manifest that he is not acquainted with the greater part of the evidence on the subject he has undertaken to investigate, and that he cannot entirely divest himself of his professional prejudices. Indeed, a continual conflict appears to be going on in his mind, between those prejudices and the impression made upon him by the weight of even that small part of the evidence which he knows. A little more profound, more extensive, and more impartial enquiry would probably produce entire conviction of the truth. In the mean time, his admissions, forced, as it were, from him, are very valuable ; and it is extremely gratifying to find, that even the adversaries of the system are now beginning to pay much more serious attention to a very interesting class of facts, and that the old and absurd theory of *attouchement*, *imagination*, and *imitation*, once deemed so satisfactory, is now abandoned by almost every intelligent opponent of the magnetic doctrine.

With regard to the theory of the *magnetic* or *vital fluid*,* and its transmissibility, I fully admit that

* A most intelligent medical correspondent, who is disposed

the *onus probandi* lies, if any where, upon the magnetizers ; and I am well aware of the difficulty of that proof. But our opponents must not require of us impossibilities. Where, I would ask, is the exact demonstration to be found of the actual existence of the ordinary magnetic, electric, and galvanic fluids ? Have they not been in a great measure assumed from the necessity of explaining certain series of physical phenomena ? In my humble opinion, the professors of Animal Magnetism have, at least, rendered it extremely probable that such a fluid does exist, that it may be communicated under the direction of the will, and that it is capable of producing very extraordinary phenomena ; although it would be in vain to expect a complete demonstration of this fact, at least until physiologists shall have more profoundly investigated the economy of the living animal frame, and the operations of the vital functions. In the mean time, we cannot do better than proceed with the collection and classification of authentic facts, for of these our adversaries cannot deprive us : *Factum infectum fieri nequit.*

It will probably be long, indeed, before the medical profession generally, especially in this coun-

to admit the existence of such a fluid, ingeniously suggests that, for the sake of distinction, it might be denominated the *electro-nervous* fluid. This suggestion deserves consideration.

try, are brought to acknowledge even the facts of Animal Magnetism, however irresistible the evidence by which they are supported. Their pride is compromised, the *esprit du corps* is tremblingly alive, and it is quite natural that they should endeavour to maintain a long and obstinate struggle against the humiliation of admitting the truth of doctrines which, hitherto, they have persecuted, ridiculed, or neglected. Some of these learned gentlemen, I am told, have magnanimously declared that they will neither investigate nor even listen to the subject. It is to the philosophical public, therefore, that the appeal must now be made; they are more likely to be impartial, and they are equally capable of pronouncing a satisfactory verdict in a matter depending upon evidence. The gentlemen of the profession will unquestionably be forced to give way, as soon as they are made to perceive the ludicrous nature of their position, in continuing to close their eyes to generally acknowledged truths, and attempting to oppose their wilful ignorance to the lights which every where surround them.

"There are few things more disgusting to an enlightened mind, than to see a number of men—a mob—whether learned or illiterate, who have never scrutinized the foundation of their opinions,

assailing with contumely an individual who, after the labour of research and reflection, has adopted different sentiments from theirs, and pluming themselves on the notion of superior ‘knowledge,’ because their understandings have been tenacious of prejudice.”* But “the true conquests, the only ones which do not cost a tear, are those which are gained over ignorance. The most honourable, as well as the most useful, occupation of man is—to contribute to the extension of ideas.”†

Many even of the most sublime and most important truths have been left to work out their establishment through many long years of doubt and discredit; they have been rejected from prejudice, or obscured by theory and speculation, until forced, at length, upon unwilling minds by the irresistible strength of the evidence by which their reality was ultimately demonstrated.

In his *Defense du Magnetisme Animal* against the attacks of M. Virey, M. Deleuze mentions, that he had received a number of letters from various individuals, who had been previously hostile to Animal Magnetism, declaring their conviction of its reality; and that one of these was from one of the gentlemen who had subscribed the Report of the

* BAILEY.

† NAPOLEON BUONAPARTE.—See ALISON’S *History of Europe during the French Revolution*, vol. iii. p. 379.

Academicians in 1784. The same author also states that many physicians are as much convinced as himself, although they *dare* not publicly avow their sentiments ; and that several of them, in this state of matters, have privately recommended experiments to their patients. Surely this is not as it ought to be. Why should we be ashamed of the truth ?

CHAPTER XXX.

I HAVE now concluded all the practical details which I originally proposed to submit to the public on the subject of Animal Magnetism. I have endeavoured to unveil the apparently miraculous features of its peculiar phenomena, and to exhibit them as merely the effects of natural agencies. It has been shewn to be exceedingly probable, that, if not exactly by name, at least in theory and in practice, the influences it develops were known, in a greater or less degree, in ancient times, and among various nations. I have pointed out many curious and coincident opinions, observations, and allusions, in the writings of ancient and of modern authors. I have noticed the analogous practices of several individuals, previous to the introduction of the more systematic treatment in recent times. I have dwelt at some length upon the modern discovery of Mesmer, and followed its progress and improvement among his disciples and successors in the magnetic art. Both the ordinary and the ex-

traordinary phenomena resulting from the treatment have, I think, been sufficiently brought into notice; and I have taken the liberty of drawing the particular attention of my readers to the very remarkable appearances manifested in the natural and in the magnetic somnambulism, to their analogy with each other, and to the additional light they seem capable of throwing on the subject of Sleep and Dreams, as well as on the manifestations of the spiritual principle in general. In the course of the work, I have likewise had occasion to consider and to obviate nearly all the objections, so far as I am aware, which have been urged against the system, both by ignorant and by learned individuals. To the former, I have ventured to recommend investigation. The hostility of the latter, I trust, I have shewn is less in reality than in name.

It only remains for me, in this concluding chapter, to make a few additional observations upon the theoretical views which have been taken of the subject, and to endeavour to dispel some serious misapprehensions, by pointing out more particularly the general tendency of the doctrine.

Limited as is my knowledge of the medical sciences, it may be thought highly presumptuous in me to propound any theory upon a subject so very obscure as this; yet, considering the extreme ignorance that prevails with respect to the nature

of the spiritual principle in man, and of the laws which regulate its manifestations, I may, perhaps, be permitted shortly to advert to certain hypotheses which have been framed by more learned and more competent persons, with the view of enabling us to account for some of the more extraordinary phenomena.

Although it has long been customary to ascribe the operations of sense, as well as of intellect, in the normal state, to the cerebral organs, yet I believe it has never been altogether denied that these operations may be influenced, in a considerable degree, by the peculiar condition of other parts of the organism, and especially of the nervous system in general.*

The late profound and interesting researches of those eminent physiologists, Reil, Autenrieth, and Humboldt, have gone far, not only to demonstrate the existence of a nervous circulation, but even to render probable the external expansion of this circulating fluid—an expansion which is supposed to take place with such energy, as to form an atmosphere, or sphere of activity, similar to that of electrical bodies. Of this theory I have given

* Even the Phrenologists—the greatest sticklers for the omnipotence of the cerebral organs—were at length compelled to modify their hypothesis, by the adoption of a peculiar theory of the temperaments, and by the convenient postulate of *ceteris paribus*.

some account in a previous part of this work. Were we, then, to admit the existence of this nervous fluid, of its sensible atmosphere, and its analogy in other respects to electricity, it does not seem to be a very violent or unphilosophical hypothesis to presume, that, in certain circumstances, and under certain conditions, it may be capable of being directed outwards, by the volition of one individual, with such energy as to produce a peculiar effect upon the organization of another. This hypothesis, too, appears to be supported by the fact, that individuals possessing sound health, and great nervous energy, operate in general most effectually in the magnetic treatment; and that weak and diseased persons are most susceptible of the magnetic influence, and manifest the most extraordinary phenomena.

Almost all the practitioners of Animal Magnetism, indeed, seem to agree in this, that the magnetic treatment operates principally, if not entirely, upon the nervous system, and particularly upon those nerves which are situated in the abdominal region.* Now, in this region, we find the great

* The principal effect of the magnetic treatment upon the brain, appears to consist in the temporary suspension of the sensibility and activity of its organs. But, in proportion as the activity of the cerebral organs is depressed, that of the ganglionic system is exalted. Is not this analogous to polarization?

ganglion, or concatenation of sympathetic nerves, called the *plexus solaris*, which appears to be the centre of the ganglionic system—a system of nervous influence opposed, as is now well known, to that of the brain.* So important in the human economy has the region of this great ganglion been considered, that some of the elder philosophers conceived it to be the seat of the sentient soul. In

* The ganglionic system does not spring, as was formerly believed, from the fifth and sixth cerebral pairs, but only communicates with them, as with many others, and with all the nerves of the spinal cord. It constitutes of itself a separate and independent whole. A series of ganglions, lying on both sides of the spinal cord, linked together by means of connecting branches, formed into a circle by the rump below and the brain above, constitutes the definite boundary of both systems. Within this boundary the ganglionic system expands, and communicates outwards with the brain by means of connecting branches. The ganglionic system contained within this elliptical boundary consists of a contexture of apparently irregular *plexus* of nerves, sometimes more loose, and, where the principal vessels lie, more closely pressed together, and occasionally provided with nervous knots. In this labyrinthic contexture, one particular group preponderates in respect to mass, separation, and influence, which, in consequence of its form, has been denominated the *plexus solaris*.

The nerves of the cerebral and ganglionic systems differ in respect to their internal structure; those of the cerebral system being more strongly oxidized, whiter, and harder; those of the ganglionic system softer, more jelly-like, and of a greyish-yellow colour. These and other differences in structure and appearance induced Sömmering and other physiologists to believe that the functions of the two systems are essentially different—the cerebral system being appropriated to the purposes of the animal life, and that of the ganglions to the vegetative.

diseased states of the organism, this ganglion appears to stand in very peculiar relations towards the cerebral system; and it has sometimes been, perhaps not unreasonably, denominated the *cerebrum abdominale*.

Now, it is a singular fact, that, in many cases of catalepsy and somnambulism, the usual organs of the senses have been found to be entirely dormant, and the seat of general sensibility transferred from the brain to the region of this ganglion, or *cerebrum abdominale*.* Does not this circumstance suggest some distinction, hitherto not sufficiently investigated, between the *intellect* and the *sensibility*—between the *cerebral* and the *ganglionic* systems of nervous energy ?†

There seems little reason to doubt, that this important ganglion, with its appendages, was designated by Paracelsus and Van Helmont, in what

* This fact was long ago demonstrated by the experiments of Dr Petetin at Lyons, and has since been abundantly confirmed.

† Although we have good reason to believe that the brain is the seat or centre of the operations of the intellect, we have equally good reason to hold that the ganglionic system—the nerves and plexus of the chest and abdomen—is the primary seat of the passions and affections of the mind. Love, hate, jealousy, joy, sorrow, anger, surprise, terror, &c. alter the functions, and even the structure of these last organs. Any effect produced by these passions and emotions upon the brain, appears to be merely secondary or sympathetic.

they have said respecting the existence and functions of the *Archeus*, which they considered as a sort of demon, presiding over the stomach, acting constantly by means of the vital spirits, performing the most important offices in the animal economy, producing all the organic changes which take place in the corporeal frame, curing diseases, &c. Van Helmont even held, that, by virtue of the *Archeus*, man was approximated to the realm of spirits; meaning, I presume, that, in cases of ecstasy, catalepsy, and somnambulism, the excited sensibility of the *Archeus* (or *plexus solaris?*) predominates over the cerebral energy, supplies its functions with increased activity, and, in the absence of the ordinary organic influence, seems to transport us into another world. Taking into view the whole of the facts connected with this subject, the ideas of Paracelsus and Van Helmont, when divested of their obscurity and mysticism, may be found not quite so extravagant and chimerical as has been hitherto supposed.

In consequence of his minute and most ingenious investigations into the nervous system, Reil conceived himself entitled to assume two poles of nervous sensibility in the human organism—the one, the *pneumatic* pole, being situated in the brain—the other, the *somatic* pole, in the ganglionic system. The late ingenious Dr Spurzheim, without

any reference to the subject we are now investigating, has made the following judicious remark : “ Sometimes it would appear as if the vital power were concentrated in one system, to the detriment of all the others. The muscular or athletic constitution is often possessed of very little nervous sensibility ; and, on the other hand, great activity of the brain seems frequently to check muscular development.”* This observation is quite consistent with the opinions of Reil. If we admit the relationship, or perhaps rather the antagonism already pointed out, between the intellect and the sensibility, between the cerebral and the nervous or ganglionic systems, and could we conceive it possible, either by means of the manipulations, &c. employed in the magnetic treatment, or by any other accidental or undiscoverable means, to withdraw a considerable portion of the nervous or vital energy from the cerebral region, and concentrate it at the *epigastrium* in the *plexus solaris*,† or distribute it throughout the ganglionic system ; should we not thus be enabled to account, in some degree, for many of the extraordinary phenomena

* Phrenology in connexion with the Study of Physiognomy, p. 15.

† In fact, this is just what appears to take place in the natural and in the magnetic somnambulism. The cerebral organs are rendered dormant, and the sensibility seems frequently to be transferred to the *epigastrium*.

of Animal Magnetism, occasioned, it would appear, by the suspension of activity in the cerebral organs, and the exalted sensibility of the abdominal ganglions? And might not the same phenomena be manifested in certain diseased or disturbed states of the organism, such as catalepsy and somnambulism, in consequence, perhaps, of some unequal and irregular distribution of the nervous energy, or vital forces, or of some other causes hitherto undiscovered. Many physical analogies might be pointed out in the phenomena of Electro-Magnetism, shewing the influence of electric currents upon the magnetic needle. At Paris, a sensible variation of the needle is produced by *Auroræ boreales* occurring in the northern regions, at a distance of thousands of miles. A stroke of lightning has been known to reverse the poles of the mariner's compass.*

* I am no great lover of theories, and feel little interest in defending them, a task which frequently generates a greater love of controversial display than of truth, which last ought always to be our ultimate end. Yet it is impossible for the reflecting mind to avoid being struck with the numerous analogies of Nature, and with the simplicity and uniformity of the means by which she accomplishes the greater part if not the whole of her most wonderful effects. But if little inclined to attach much value to theories, I would give still less weight, in the present state of physico-psychological science, to the mere authoritative *dicta* of philosophers, especially when I find men of such eminence as Dr Roget and Sir Charles Bell denying, upon speculative grounds, the possibility of phenomena which have been

Other ingenious inquirers have endeavoured to explain the magnetic phenomena upon similar principles, indeed, although upon a still more simple theory than the preceding. The brain they consider analogous to a galvanic battery, habitually charged with a neutral or natural fluid, having need of isolated fluids, positive and negative, sent to the animal and organic life by an act of the will, through the medium of the nerves, as conductors. Without going farther than the mere simple statement of this theory, which, I trust, will be sufficiently intelligible to my readers, I shall proceed to shew in what manner a late intelligent writer attempts to account for the peculiar phenomena of the artificial somnambulism upon its principles.

Every man, it is said, has the faculty of causing the magnetic fluid to radiate from his brain, by the sole act of his will. This fluid is in a neutral or natural state. Now, suppose this fluid directed by the magnetizer towards the brain of another individual; the consequence will be this: If the fluid of the magnetised person is equally natural, no effect will be produced, because two neutral fluids do not act upon each other; and this is what generally takes place when we attempt to magnetise

observed to occur in thousands of instances, and whose actual existence has been demonstrated by the most ample, the most unexceptionable, and irrefragable evidence — facts which are all but universally notorious.

a person in health. But if the fluids are isolated, as is usually the case in sick persons, each of these two fluids will tend to decompose the neutral fluid of the magnetizer, and to combine with its opposite.

It is a remarkable fact, that the combination of the fluids of one individual with those of another has the effect of producing sleep. This combination causes the brain to pass into a sort of *erethismus*, which, gradually increased by the continuation of the magnetic action, determines, in the brain of the magnetised person, a considerable disengagement of fluid. It is this excess of fluid whose subtlety, traversing the sides of the cranium, irradiates the surrounding objects, and occasions the wonderful phenomena of lucidity. In such circumstances, the brain is enabled to dispense with the instruments of the senses, and the individual can see without the eyes, and hear without the ears. In the ordinary state, the organs of the senses are a kind of conductors, which bring us the impressions of external objects; but in somnambulism, the fluid comes into immediate contact with these objects, so that the natural conductors of sensation become useless.

We have seen that, in somnambulism, the sensibility of the animal life is entirely abolished. This phenomenon, in our opinion, is susceptible of

a rigorous explanation. We feel nothing, because the brain, completely absorbed by the activity of this new order of perceptions, entirely abandoned to this ecstatic life, no longer perceives any other impressions. We may form some idea of this incapability of perceiving in the brain, from what daily takes place, when a strong sensation annihilates within us a weaker one. It is thus that an individual, profoundly pre-occupied with some great idea, or struck with the sight of a very interesting object, sees and hears nothing of what is going on around him. It is thus, too, that in a contest embittered by wrath or vengeance, the two adversaries scarcely feel the blows which they mutually inflict upon each other.

After a magnetic sleep, why does the somnambulist recollect nothing of what passed in this state? He remembers nothing, because every thing has taken place out of his brain, since we have seen that the fluid goes in search of the objects. We can conceive that dreams should leave some recollection behind; in fact, every thing then takes place in the brain, and although the impression may have been slight, yet it may be retained until awaking, and leave some trace in our memory.

Why is the magnetizer not always capable of acting effectively? Because his will, at the given moment, may be incapable of directing the fluid;

because he is distracted or indisposed, and his fluid no longer possesses the requisite conditions ; because he acts upon a healthy person, and their neutral fluids are incapable of acting upon each other ; because he operates upon a sick person, whose fluid, at the moment, is in a natural state ; finally, because some third party exerts a contradictory action, with or without intention.

Why ought the magnetised person to have confidence in Magnetism ? Because it is necessary that the brain should be in certain moral conditions, in order to produce certain moral effects.*

I repeat, that I have not presumed to bring forward any of the foregoing hypotheses, with the hope that any one of them will be found to afford a complete and satisfactory theory to account for the phenomena in question, but merely as hints or queries addressed to those persons who, with superior qualifications for the task, may feel inclined to prosecute the inquiry. Much, indeed, still remains to be done in the investigation of this dark and difficult subject ; but a patient and judicious perseverance in the path of experimental research, and especially a more attentive observation and classification of the psychical manifestations, as

* See MAGNETISME, *son histoire, sa theorie, son application au traitement des maladies : Mémoire envoyé à l'Academie de Berlin.*
Par le Docteur LÉONARD. Paris, 1834.

contra-distinguished from the mere acts of the sensitive organism, may ultimately lead to a successful solution of some, at least, of the many difficulties with which it is now beset. Nay, the fortunate evolution of some single, and perhaps simple, principle may at length dispel the darkness which now envelopes this most interesting physiological question ; and a more enlightened posterity may even wonder that we should have been impeded, by apparently insuperable obstacles, in an investigation, in which every thing has to them become comparatively smooth and easy.*

But whatever speculative notions we may be pleased to entertain, in the mean time, upon this abstruse but fascinating subject, I should conceive that even a superficial consideration of the facts brought forward in this work, independently of all

* Veniet tempus, quo ipsa quæ nunc latent, dies extrahet, et longioris aevi diligentia. Ad inquisitionem tantorum aetas non una sufficit. Veniet tempus, quo posteri nostri tam aperta nos nescivisse mirabuntur.—SENECA.

It is, perhaps, unfortunate, that Physiology is almost exclusively cultivated by medical men, and for medical purposes, without any sufficient attention to its bearings upon the science of mind. Hence, probably, the material tendency of the views it presents. Could a physician and philosopher, like Dr Abercrombie of Edinburgh, be induced to devote a portion of his time and attention to a systematic work upon this interesting subject, I have no doubt it would be made to assume a very different aspect.

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It is, perhaps, unfortunate, that Physiology is almost exclusively cultivated by medical men, and for medical purposes, without any sufficient attention to its bearings upon the science of mind. Hence, probably, the material tendency of the views it presents. Could a physician and philosopher, like Dr Abercrombie of Edinburgh, be induced to devote a portion of his time and attention to a systematic work upon this interesting subject, I have no doubt it would be made to assume a very different aspect.

theory, must be sufficient to enable my readers to perceive that the phenomena of Animal Magnetism come into direct collision with the opinions and doctrines of the mere physiological materialist—the advocate of the organic origin and nature of the mind, or spiritual principle—and expose, in all their nakedness and deformity, the scantiness, insufficiency, and utter absurdity of his creed. Indeed, the very material character of the predominant systems of philosophy, in this unphilosophical age and nation, has probably opposed the strongest barrier, in this country, to the general recognition of the facts adduced, and the doctrines maintained in this work.* But the more diligently, the more

* I had conceived that Materialism, in its more gross and offensive form, had been long since exploded; but I was mistaken. I find that it has been recently re-introduced into Physiology, not by any philosopher, indeed, but by a physician. Dr Elliotson of London, in his work on Physiology, asserts that "Mind is the functional power of the living brain," and that "the brain thinks, and feels, and wills, as clearly as the liver produces bile." These assertions are probably results of the *science of Phrenology*, of which I have already ventured to give an opinion, and in which, I understand, Dr Elliotson is an adept. I might have been induced to make some remarks on the monstrous absurdity of all such opinions, had not this been already done to my hand by Mr Roberton of Manchester, in two admirable communications inserted in two recent numbers of the *London Medical Gazette*. What would Dr Elliotson think if I, who am no physiologist, should assert, in opposition to him who is, that *Mind—soul, spirit, the immaterial principle—produces, forms, creates the brain?* Yet I might perhaps be able to adduce

intimately, the more profoundly, we examine into the human constitution, and the more attentively we observe its most interesting phenomena, the more firmly must we be convinced that there are many important springs and operations, many remarkable actions and reactions in the vital economy, which never can be satisfactorily explained upon the pure principles of Materialism. The Materialists themselves, indeed, seem to be perfectly aware of the deficiencies of their own systems ; and in order to supply a remedy, they are com-

as many and as good facts, arguments, and authorities, in favour of my assertion, as he could in support of his. But, in the words of a former quotation, *Medico, qua Medicus, ignota est anima.* The materialists, indeed, affect to consider this question, respecting the nature of the soul, as of little or no consequence. But here also I differ from them.

I beg leave to call the attention of my readers to an excellent work lately published, entitled *Natural Evidence of a Future Life*, by F. C. Bakewell ; a truly philosophical production, containing one of the most beautiful and convincing specimens of analogical reasoning I ever happened to meet with. I wish I had seen it sooner.

Sir Kenelm Digby says it cannot be “ expected that an excellent physician, whose fancy is always fraught with the material drugs that he prescribeth his apothecary to compound his medicines of, and whose hands are inured to the cutting up, and eyes to the inspection of anatomized bodies, should easily, and with success, flie his thoughts at so towering a game as a pure intellect, a separated and unembodied soul.”—*Observations on Sir T. Brown’s Religio Medici.* An anonymous commentator on the same work alludes to a common saying : *Ubi tres Medici, duo Athci.*

elled to call in to their aid the auxiliary assistance of two foreign principles : With their matter they associate mechanism, which implies design, and must therefore be a product of mind or intelligence, and postulate motion, the nature of which is directly opposite to that of matter ; and they afterwards resort to a variety of gratuitous hypotheses, in order to enable them to explain the reciprocal action of these elements, in a manner corresponding with the phenomena of the vital functions. They might truly exclaim with the sacred writer : *Ambulavimus vias difficiles, et erravimus a via veritatis.* For, after all their expenditure of labour and ingenuity, they find it wholly impossible to account for intellect and the moral manifestations upon their favourite principles : and, at last, they only exhibit to view a fanciful, fantastic, and frightful monster —like the Caliban-creature of the modern Prometheus—whose uncouth form and awkward movements are calculated to excite the disgust, or the risibility, of the rational philosopher.

The Animal Magnetist, on the other hand, takes a more simple, a more discriminating, and, at the same time, a more comprehensive view of nature. He distinguishes, as authorised by the facts presented to his notice, between the materiality and the motion of bodies, and the spiritual principle which animates and actuates organised beings ; and

he considers the phenomena manifested by the latter as infinitely more important to the philosophy of man, than those of the former. He is not content to examine the fleshless skeleton, in order to acquire a knowledge of the principles of life and action; or to pore over the sapless trunk, with a view to discover the causes of the germination of the bud, or of the gradual growth and ultimate maturity of the fruit. His business does not lie among the tombs and the charnel-houses—the abodes of decay and corruption. In the true spirit of the inductive philosophy, he cautiously interrogates living nature, receives her answers with humility, and treasures them up with faith and confidence, as infinitely more edifying and useful than the most profuse ingenuity of perverse speculation; and he is so much the more assured of the reality and the solidity of the knowledge he has thus acquired, because it ultimately rests upon a firm and insubvertible foundation of facts presented by nature herself, and discards the feeble, precarious, and unsatisfactory support of unsubstantial and unstable hypotheses. He is thus enabled to give a simple and sufficient philosophical reason for the faith which is in him; while his whole doctrine is calculated to elevate humanity, and to dignify, by spiritualising, science.

In short,—in the phenomena manifested in the

higher degrees of Animal Magnetism, we may find a complete practical refutation of all the material theories of the human mind, a most distinct, cogent, and impressive proof of the independent existence of the soul of man, and, consequently, the strongest philosophical grounds for presuming its immortality ; since it has now been demonstrated beyond the possibility of rational doubt, that, in its manifestations, it is not necessarily chained down to any particular part of the sensible and mortal body ; but that it is capable of exercising its various functions, in peculiar circumstances, without the assistance or co-operation of any of those material organs, by means of which it usually maintains a correspondence with the external world.*

* In eo tamen Wienholto adsentior, et his phænomenis ali immortalitatis spem ac augeri ; cum nullum supersit dubium, posse nos sentire ac percipere sine ullo organorum externorum commercio.—SPRENGEL, *Inst. Med.* p. 311, § 401.

Dr Georget, to whom I have already referred, a young and most promising physician, and also a Member of the Institute or Royal Academy of Sciences at Paris, published a work of great merit, in 1821, under the title of *Physiologie du Système Nerveux*, in which he broadly professed the principles of materialism ; but afterwards, on becoming acquainted with the phenomena of the magnetic somnambulism, he found reason to change his opinions, and in his last will and testament, dated 1st March 1826, he earnestly requested that the utmost publicity might be given to his recantation.

Dr Georget is said to have been engaged in a work upon this subject at the time of his death, in 1828.

With the greatest deference to the opinions of those more competent than myself to such inquiries, it does appear to me, that the only possible method of explaining how this correspondence is carried on, in the circumstances alluded to, is by assuming the existence of a very subtle and attenuated ethereal fluid, probably secreted in the brain, or modified by that organ, acting under the command of the will, and conducted to all parts of the corporeal frame by means of the various ramifications of the nerves. This opinion was formerly entertained, as we have seen, by the celebrated Hoffmann, and by many other learned men, long before the modern discovery of Animal Magnetism;* and

* In consequence of my ignorance of medical literature, I was not, until lately, aware, that similar opinions had been adopted, and maintained with great knowledge and acuteness, by those eminent practical enquirers, Mr Hunter and Mr Abernethy. The latter, in illustrating the theory of his predecessor, considers *Life*, or the vital principle, as a sort of connecting medium between mind and matter—each, however, being independent of the other ; and that mind is added to life, as life has been added to organization. “ I am visionary enough,” he observes, “ to imagine, that if these opinions should become so established as to be generally admitted by philosophers, that if they once saw reason to believe that life was something of an invisible and active nature, superadded to organization, they would then see equal reason to believe that mind might be superadded to life, as life is to structure. They would then, indeed, still further perceive how mind and matter might reciprocally operate on each other by means of an intervening substance. Thus even would philosophical researches enforce the belief, which, I may say, is

there are various facts and observations, independently of the analogous phenomena of Magnetism, Electricity, and Electro-Magnetism, which almost seem to take this assumption out of the category of a mere hypothesis. Roullier observes, that, in Magnetism, the physical processes elicit a fluid, which reasoning and analogy would compel us, as it were, to admit, even if all somnambulists had not besides invariably attested its existence. The somnambulists see this fluid white as light, and

natural to man, that, in addition to his bodily frame, he possesses a sentient, intelligent, and independent mind ; an opinion which tends, in an eminent degree, to produce virtuous, useful and honourable actions." Mr Abernethy is also favourable to the hypothesis of an universal attenuated ethereal fluid or substance, pervading all nature, and constituting the life of the world ; and he thinks that a similar principle may pervade organized structures, and have like effects on them.—See ABERNETHY's *Physiological Lectures*. I believe that these rational opinions of Mr Abernethy encountered virulent opposition from the materialistic tendency of the age.

The late Mr Coleridge thought that "it is a great error in physiology not to distinguish between what may be called the general or fundamental life—the *principium vita*, and the functional life—the life in the functions. Organization must presuppose life as anterior to it ; without life there could not be or remain any organization ; but then there is also a life in the organs, or functions, distinct from the other."—*Table-Talk*, vol. i. pp. 144–145.

I do not precisely see the necessity of Mr Coleridge's distinction between the fundamental and the functional life ; the latter may be considered as merely a portion of the former, destined, or directed, to a particular purpose. But I conceive that Cole-ridge is quite correct in saying that organization presupposes

sprinkled with brilliant sparks, when the magnetizer operates, with more or less energy, with the points of his fingers ; and among these somnambulists, there have been children, persons without any knowledge of physics, and even some who, in their natural state, had no confidence in Magnetism."* And Puysegur makes the following curious comparison between the magnetic processes and the action of the electric machine : " The electric machine, set in motion by the handle, which causes the glass-plate to revolve between two cu-

life as anterior to it, and that without life there could be no organization. Life, embracing the *nexus formativus* of Blumenbach, is, unquestionably, the secondary cause of all organization, as well as of all functional manifestations.

The following are some of the general conclusions deduced by Mr Bakewell, in his interesting work on the *Natural Evidence of a Future Life*.

The vegetative principle exists prior to the organization of the plant, unless we could suppose that the effect of vegetation is produced without any cause. In organized beings, the living principle must exist prior to, and is not consequent upon, animal organization. The sentient principle, and the intellectual powers, are distinct from material substance, and independent of the material agents by which they are developed. The brain is merely the apparatus for developing the powers of the mind ; and any deficiency in the proper development, occasioned by injury, or by the decay of the apparatus, is no more indicative of the decay of mental power, than any derangement in the machinery of the steam engine, which impedes its action, is to be considered indicative of the loss of the expansive power of heat, by which it was previously set in motion.

* See *Bibliotheque du Magnetisme Animal*, tom. iii.

shions, is the image of the human magnetizer. Let this motion stop, then all communications cease, all the sparks disappear, in short, all kinds of electrical manifestations are at an end. In the same manner, the manifestations of Animal Magnetism cease, from the moment that our will, the handle of our thought, no longer acts magnetically, with the intention of producing them.”*

But although we may find ourselves compelled, either by the necessity of the case, or by the result of experiment and observation, to admit that something of attenuated, invisible, and imponderable materiality, analogous to Electricity, exists in the living body; in doing so, we in no degree infringe upon the important doctrine of the immateriality and indestructibility of the soul itself. The nervous, vital, or magnetic energy, or by whatever other name it may be called, may be considered as an actual fluid, supplied from the blood, elaborated by the brain and nerves, pervading the whole system, and forming an admirable gradation, a beautiful and most appropriate connecting link between the more gross material parts and the immaterial soul. Such a theory—viewing it merely as a theory—might elucidate many obscure points in physiology; such as the evolution of animal heat, the operation of the senses, the separation of the

* See *Bibliotheque du Magnetisme Animal*, p. 211.

blood drawn during inflammatory diseases, irritability and contractility, the dependent action of the heart, lungs, and arteries, the reciprocal influence of the body and mind upon each other ; in short, many of the most wonderful, and apparently inexplicable, phenomena of the animal economy. Such a theory, too, seems far more analogically consistent with that beautiful regularity, that harmonious and almost imperceptible gradation, which is so admirably manifested in all the works of Divine Power and Wisdom, than to conceive the immaterial and immortal soul to be immediately united to the gross and perishable body. Moreover, this vital energy may be considered either as a peculiar fluid *sui generis*, or as a particular modification of an universal fluid, pervading all nature, as the vehicle or medium through which are produced all the most remarkable phenomena that occur in the physical and the moral world.*

The preceding views are powerfully corroborated by the speculations of some of the most eminent metaphysicians.

A certain class of philosophers, deeply impressed with the mysterious intimations and manifestations of our spiritual nature, in contradistinction to those of the mere sensible organization, have been

* See some speculations upon this subject in the Appendix, No. III.

led, independently of Revelation, to assume a two-fold world—a sensible and a supersensible, a two-fold life in man—the *phenomenal* and the *noumenal*; the one adapted to our condition, and the circumstances by which we are surrounded, in the present state of our existence—the other manifesting within us a more spiritual character, and rendering us capable of anticipating and enjoying the prospect of a future. The poets, too, yielding to the impulse of these lofty aspirations, have frequently appealed, with rapt inspiration, to the higher principles of our being, in their glowing ideal representations of the dignity of that spiritual nature which was infused into man at the creation. The discoveries of Animal Magnetism have at length demonstrated that, in all this, there is something more than mere metaphysical hypothesis, or poetical rhapsody. They have experimentally proved that there is something more elevated in the nature of man, than appears to common observation in the ordinary state of our existence; and, from the interesting and consolatory truths they have unfolded, there has been developed, as the flower from the bud, that delightful faith in the expansive and imperishable character of our spiritual being, which, while it exalts us beyond the narrow limits of time and space, and teaches us to aspire to a brighter, a purer, and a

loftier destiny, seems calculated ultimately to produce an eternal reconciliation and harmonious concord between Religion and Philosophy.*

* I have heard with concern that certain clerical personages—of what denomination I know not—were disposed to take violent offence at my former publication, conceiving it, I presume, to be hostile to some of their religious principles. I have not seen their animadversions, nor do I wish to see them; being naturally averse to all such controversy, and not particularly anxious to expose myself to the proverbial *odium theologicum*.

An anonymous annotator on Sir Thomas Brown's *Religio Medicorum* observes, that “the author's behaviour, and general method of reasoning as to matters of religion, was always inclining to moderation. Upon that account he easily foresaw, and perhaps had undergone the imputation of atheism from the narrow-minded bigots, who are so overswayed by a preposterous zeal, that they hate all moderation in discoursing of religion: they are the men, forsooth,—*qui solos credant habendos esse Deos quos ipsi volunt.*” At one time, indeed, all those philosophers who applied themselves to the study of the operations of nature, were accounted irreligious; and there is scarcely any one science which has not, in its turn, been denounced as impious.

But I would just entreat the reverend gentlemen, to whom I have alluded, to consider, that the whole of *my* offence consists in having brought prominently forward some natural facts, hitherto overlooked or neglected. Now, I hold that, to use the language of Lord Bacon, “there is no enmity between God's word and his works.” If these alleged facts be false, let them be disproved or invalidated. If they be true—How can truth injure religion? How can our knowledge of these things diminish our reverence for that Being who is the author of the one, and the object of the other? Nothing but gross ignorance, and an ill regulated devotion, indeed, could suggest any such views; and their prevalence would only prove that, in spite of the boasted intelligence of the present age, the day has not yet arrived, when, as anticipated by the great Kepler, “pious

I have thus humbly endeavoured to make my readers acquainted, not only with the interesting facts disclosed by the processes of Animal Magnetism, but also with the nature and tendency of the doctrines necessarily embraced by its advocates. If they believe, as firmly as I do, in the truth of the facts which have been submitted to their con-

similarity will become ashamed of its blind superstition—when men will recognise truth in the book of nature, as well as in the Holy Scriptures, and rejoice in the two revelations."

The doctrines of Animal Magnetism, I apprehend, are eminently calculated to promote the true interests of spiritual religion, by associating with it a spiritual philosophy. And where shall we find a more admirable demonstration of the Power, Wisdom, and Goodness of God, than is presented to us in the phenomena detailed in this work? Where a more sublime and ennobling subject of contemplation, than the manifestations of the immaterial soul of man, breathed into him by the Creator, independently of the material organism? When engaged in such contemplation, who would not feel disposed to exclaim with the poet :

" How poor—how rich—how abject—how august—
" How complicate—how wonderful is man !
" How passing wonder He who made him such !
" Who center'd in our make such strange extremes ;
" From different natures marvellously mix'd ;
" Connexion exquisite of distant worlds ! "

I have always had considerable doubts whether any contemplation of the merely material universe can produce, in our minds, such lofty thoughts of the wisdom and goodness of God, or of the nature and destinies of man, as a just and comprehensive view of his spiritual, intellectual, and moral constitution. In contemplating the phenomena of the external world, the

sideration—and this, I presume, must depend upon the attention they have bestowed upon the evidence—they cannot fail, I think, to be convinced, that the discovery of the agency in question is of great value to medical science, and of almost infinite importance to philosophy. For my own part, I do

feelings naturally excited in the mind are those of admiration and awe; but I much doubt the propriety of any finite being presuming to sit in judgment over the works of infinite power and wisdom, and attempting to explain them according to his own narrow notions of fitness, adaptation and design; and I am therefore exceedingly sceptical with regard to the *spiritual* edification to be derived from a perusal of the late Bridgewater Treatises, excellent as they are in other respects. It appears to me, that, in the following truly sublime passage, the immortal Kant has justly discriminated between the feelings produced by the two species of contemplation alluded to :

“ There are,” says he, “ two things which fill the mind with ever new and increasing admiration and awe, the longer and the more frequently we reflect upon them. The starry heavens above, and the moral law within me. Neither of these may I consider as involved in obscurity, or as placed infinitely beyond my sphere of contemplation. I see them both before me, and connect them immediately with the consciousness of my existence. The first commences at the place I occupy in the external world of sense, and extends into the immeasurably great the connexion in which I stand towards worlds upon worlds, and systems upon systems, with their boundless periodical motions, their commencement and duration. The second commences with my invisible self, my personality, and represents itself as in a world of real infinitude, although comprehensible only by the understanding, and with which (as, at the same time, with all visible worlds), I find myself placed, not, as in the former case, in merely accidental, but in an universal and necessary connexion. The first aspect of an innumerable multitude of

not hesitate to avow my sincere and honest conviction, that the results to which this discovery has conducted us, are destined, sooner or later, to operate a most essential change upon the aspect and constitution of several of those sciences which have obviously been founded upon too narrow an induction, and which yet pretend to exclusiveness, although their professors are compelled to have recourse to empty speculation, in order to sup-

worlds annihilates, as it were, my importance, as an animal being, which must again restore to the planet it inhabits—a mere point in the universe—the matter out of which it was originally created, after it had been, for a short time, we know not how, endowed with vital energy. The second, on the other hand, infinitely exalts my value, by reason of my personality, in which the moral law reveals to me a life independent of the mere animal existence, and even of the whole sensible world, at least so far as we can judge from the appropriate destination of our being through this law, seeing that it is not restricted to the conditions and limits of this life, but reaches into eternity.”—*Crit. der Pract. Vern.*

The contemplation of the external universe is calculated to make the deepest impression upon the rude mind of the savage; that of the moral world, upon the more refined intellect of the civilized man.

I have already mentioned the case of Dr Georget; and I am informed that the study of the phenomena of Animal Magnetism has lately done wonders in France, by weaning many from the deadly errors of materialism and infidelity, and giving birth to a sound spiritual and religious faith.

Notwithstanding some recent phrenological manifestations, I trust that our Scottish clergy are not yet indissolubly attached to the principles of materialism, and prepared, like Priestley, to attempt to reconcile them with religion,

ply their acknowledged want of a solid basis of facts.*

If, unfortunately, I have been unsuccessful in my endeavours to impress upon the minds of my readers a complete conviction of the reality and

* "That which distinguishes this from all previous discoveries, is, that not only have the physical sciences become enriched by a fact until then unknown or misunderstood, but that metaphysics will inevitably derive from it lights favourable to the development and future progress of that science. This first cause, this eternal principle of things, this spirit which vivifies matter—the freedom of man, the incorporeal nature of thought, its immaterial origin, and the immeasurable sphere of its action—all these great questions, which metaphysics hitherto could only resolve by the help of speculation, seem now to be analytically and experimentally demonstrated by the magnetism of the will."—*Bibliotheque du Magnetisme Animal*, tom. ii. pp. 145, 146.

The following are some of the important inferences which Dr Jung-Stelling justly deduces from the phenomena of Animal Magnetism. My readers may compare them with the facts adduced in this work.

"In our present natural state, we cannot attain to any knowledge of created things, in any other way, than through the medium of our five organs of sense.

"If any change be made in our organs of sense, or their internal arrangement be altered, our ideas of things, and, with them, our knowledge becomes different; for instance, if our eye were otherwise formed, all colours, forms, figures, dimensions and distances would also be different, and the same is the case with all the five senses.

"Beings that are differently organized from ourselves, form an entirely different idea of our world, from what we do. Hence it follows, incontestibly, that the ideas we form of the creation, and all the science and knowledge resulting from them, depend upon our organization.

importance of the phenomena of Animal Magnetism—a circumstance which I should be disposed

“ God views every thing as it is in itself, and in reality, out of time and space,” &c.—“ No space exists out of us in Nature, but our ideas of it arise solely from our organization.”—“ Time is also a mode of thinking peculiar to finite capacities, and not any thing true or real.”

“ Animal Magnetism undeniably proves that we have an inward man, a soul,” &c.

“ Light, electric, magnetic, galvanic matter, and ether, appear to be all one and the same body, under different modifications. This light, or ether, is the element which connects soul and body and the spiritual and material world together.

“ When the inward man, the human soul, forsakes the inward sphere, where the senses operate, and merely continues the vital functions, the body falls into an entranced state, or a profound sleep, during which the soul acts much more freely and powerfully, all its faculties being elevated.

“ The more the soul is divested of the body, the more extensive, free and powerful is its inward sphere of operation. It has, therefore, no need whatever of the body, in order to live and exist: the latter is rather an hinderance to it,” &c.

“ The foregoing inferences are drawn from experiments in Animal Magnetism. These most important experiments undeniably shew, that the soul does not necessarily require the organs of sense in order to be able to see, hear, smell, taste, and feel, in a much more perfect state.”—“ The soul in this state has no perception whatever of the visible world; but if it be brought into reciprocal connexion (*rapport*) with some one who is in his natural state, and acts through the medium of his corporeal senses.....it becomes conscious of the visible world through him, and in him is sensible of it.”

“ Space is merely the operation of the material organs of sense; out of them it has no existence; therefore, as soon as the soul forsakes the latter, all proximity and distance cease. Hence, if it stand in *rapport* with a person who is many thousand miles distant from it, it can impart knowledge, by an in-

to ascribe to the inability or unskilfulness of the advocate, rather than to the weakness of the cause—I trust that I have, at least, been enabled to dispel many unjust prejudices which they had been previously induced, by ignorant or interested persons, to entertain in regard to its facts and its doctrines, and to stimulate their curiosity to become better acquainted with this highly interesting subject of investigation. Even in this view, I should not conceive my time and labour to have been unprofitably spent. Although myself unable to give an effective blow to the materialism and scepticism, the sensuality and libertinism of the age, I may yet have succeeded in giving a favourable *impetus* to public discussion, and furnished arms and arguments which may be wielded with greater force

ternal communication, and receive it from such an one, and all this as rapidly as thoughts follow each other."—"When the soul is separated from the body, it is wherever it thinks to be; for as space is only its mode of thinking, but does not exist except in its idea, it is always at the place which it represents to itself, if it may be there.

"Time being also, in fact, a mere mode of thinking, and not existing in reality, the departed soul may be susceptible of future things, &c.

"By magnetism, nervous disorders, long continued efforts of the soul, and by other secret means, a person who has a natural predisposition for it, may, in the present life, detach his soul, in a greater or less degree, from its corporeal organization," &c. See Dr Jung-Stilling's *Theory of Pneumatology*—a work containing many curious and important facts, and much ingenious reasoning, mixed up with some mysticism.

and effect by more powerful hands and mightier minds than my own.

With regard to the bygone fortunes of Animal Magnetism, the first report of the French Academicians in 1784 threw a degree of doubt and ridicule over the whole inquiry, which the subsequent efforts of many learned men, eager to refute, or to condemn, yet unwilling to investigate, naturally tended to augment, rather than to dispel. They would not grant the new doctrine even the privilege of a fair hearing. It has been observed by Lord Bacon, that "when a doubt is once received, men labour rather how to keep it a doubt still, and accordingly bend their wits."....."But," says his Lordship, "that use of wit and knowledge is to be allowed, which laboureth to make doubtful things certain, and not those which labour to make certain things doubtful."

More than half a century has now elapsed since the report in question was drawn up and presented to the public, and, during that period, many learned and eminent individuals have, by experimental investigation, fully demonstrated the reality of the disputed facts, and thrown much light on the principles upon which they probably depend. The truth of the doctrines of Animal Magnetism, therefore, must be determined, not by the points of view in which they presented themselves to the

French Commissioners in 1784, but according to the more matured form they have since been made to assume by the assiduous labours of subsequent inquirers. For my own part—a humble labourer in the vineyard of science—I should be happy to think that I had been, in any degree, instrumental in diffusing a knowledge of these important but neglected truths, or, at least in promoting and facilitating the investigation. I desire not a blind belief, but an impartial examination, and a rational conviction. In short, all that I now ask, or have ever asked, for Animal Magnetism, is, what I presume no person of intelligence and candour can refuse me—*a fair field, and no favour.* *Hoc unum gestit : ne ignorata damnetur.**

It may be, with truth asserted, that the merits of the controversy between the Animal Magnetists and their opponents of all descriptions, must be considered as having been long since determined in the eyes of all enlightened and rational men. On the one side, we have a vast number of curious and incontrovertible facts, abundantly attested by competent and credible witnesses, and supported by many natural analogies: On the other, we meet with nothing but ignorant ridicule, wilfully blind, perverse and invincible prejudices, or with ingenuous but empty opinions, arguments and specula-

* TERTULLIAN, *Apologeticum*, c. 1.

tions, inconsistent with these facts and analogies. The contest lies entirely between fact and theory or preconception; and no rational mind can hesitate for a moment, after adequate inquiry, to determine on which side the truth is to be found. Indeed, it may happen here, as in other cases, that, in the words of Bacon, “the voice of Nature will consent, whether the voice of man do or not.”

By those, indeed, who have thoroughly investigated the subject with attention, discrimination, and impartiality, the doctrine of Animal Magnetism is now considered as a real, an important, and an imperishable acquisition. There are few truths which have been ultimately evolved under more unfavourable circumstances. It has already withstood the severest trials—time, scientific opposition in an enlightened age, persecution, misrepresentation, sophistry, contempt, ridicule—even the desolating tempests of political revolution. If the victory has been at length achieved upon the Continent, we owe a debt of gratitude to those honest, those persevering and indefatigable men, who, having once been fortunate enough to seize upon the truth, held it fast for a time, until at last they were enabled to carry it triumphantly into the very camp of the scorner.*

* See the late Report of the French Royal Academy of Medicine, Appendix, No. I.

But, in order to render the ultimate triumph of truth fully available to humanity, it is necessary that philosophers and enlightened physicians should at length abandon that irrational state of opposition or indifference in which they have hitherto sought to entrench themselves—that they should restrain that supercilious scepticism with which they have long been accustomed to regard the phenomena—that they should condescend to investigate the facts carefully, rigorously, and impartially—that, when their researches have produced conviction, they should endeavour to wrest the magnetic treatment out of the hands of the unskilful empiric, take it into their own management, and exercise it for the benefit of mankind. Should medical men spurn this advice, I do not hesitate to maintain, that they wilfully neglect one of the most important duties of their profession, deprive themselves of a large sphere of usefulness, and render themselves guilty of no slight offence against the interests of society. Let them remember, as Lord Bacon has justly observed, that “the science of medicine, if it be destituted and forsaken by natural philosophy, is not much better than an empirical practice.”

To the philosopher, I would repeat the suggestion of the venerable M. Deleuze, in his admirable *Defense of this doctrine against the attacks of M.*

Virey. Animal Magnetism is a natural cause, which explains all the effects formerly attributed to magic and witchcraft, as electricity explains the thunder, as astronomy explains the appearance of comets, as a knowledge of the different laws of nature explains all those phenomena which, in times of ignorance, were ascribed to supernatural agents. The opinion that an emanation from one person, directed by his will, may act upon another individual—as an emanation from the brain acts upon the fingers—does not conduct us to the belief of the action of devils: on the contrary, it annihilates this superstition, by teaching us to see in ourselves the cause of many effects, which were formerly ascribed to strange and chimerical powers.*

To the Divine I would humbly submit, that the doctrine of Animal Magnetism does, in no degree, interfere with our belief in real *miracles*, because it does not prevent us from believing that the omnipotent Author of nature may, if and when he pleases, interrupt or suspend the ordinary laws of nature. But this doctrine does tend to prevent us from believing in false and pretended miracles, by

* In this view, Animal Magnetism might, perhaps, be not inaptly considered as the Philosophy of Superstition; its object being to investigate the natural causes of many of those phenomena which have hitherto been entirely disbelieved against positive evidence of their reality, or held to be the effects of supernatural agency.

demonstrating that the facts, which appeared miraculous before Magnetism became known, are only the effects of a faculty natural to man.* The real

* The Roman Catholics have a curious, and rather ingenious, method of accounting for the extraordinary phenomena of Animal Magnetism. When they are produced by a priest or saint of their own church, they are the work of God ; when by a protestant, or a member of any other persuasion, they are the work of the devil.

I have now before me a work, entitled, *La Religion constatée universellement*, &c. by M. de la Marne, published at Paris in 1833. The author is a bigoted Roman Catholic. In the course of his work, he has occasion to investigate the subject of Animal Magnetism ; and the most zealous disciple of Mesmer could not be more anxious, than he is, to establish the reality of the phenomena. But, then, he ascribes them all to the devil, or to diabolical agencies. Every Protestant writer—every writer who is not a blind devotee to the Romish church—he uniformly stigmatizes as an *écrivain impie* or *irreligieux* ; and I verily believe that if our own venerable and venerated Dr Chalmers should happen to come across the path of this zealot, even he would not escape the fiery anathema.

But this jesuitical author is not content with anathematizing Christian authors. He attacks the Bible itself, as in duty bound ; and is not far from designating it as an *impious book*. The thing is scarcely credible, but it is really so. After telling us, in the text, that “ there are no means more easy or more efficacious, for becoming acquainted with religion in all its plenitude, than to listen with respect to the instructions of the Church ; he proceeds, in the following manner, in a note :—

“ The Protestant sects”—but I must decline to translate such irreverent matter, and give it in the author’s own language—“ Les sectes protestantes disent que la *Bible*, qu’elles appellent superstitieusement *la parole de Dieu*, est encore un meilleur moyen. Conjecture deraisonnable ! Car d’abord qui vous a dit que ce recueil d’écrits, rédigés tant bien que mal, était *la parole de Dieu* ?

tendency of Animal Magnetism, therefore, is to give a powerful, although an indirect, support to

De qui tenez-vous cette étrange assertion ? Où sont vos preuves, vos garanties, vos raisons ? Hélas ! la superstition vous étourdit. Vous croyez puerilement sans ombre de preuve. Vous ne voyez pas même que votre crédulité attribue à Dieu de grossières erreurs, une ignorance choquante, toutes les misères mentales des écrivains de la Judée. Et ensuite d'où savez-vous que toutes les doctrines sacrées se trouvent écrites dans la *Bible* ? Elle-même le dit-elle ? Nulle part. Jésus-Christ l'a-t-il révélé ? Jamais ; la *Bible* d'ailleurs n'était qu'à moitié faite de son temps. L'Eglise enseigne-t-elle ce point capital ? Loin de là, elle assure le contraire. Encore une fois donc, où avez-vous trouvé cette mystérieuse nouvelle ? *Sectes bibliolâtres* ! ici, vous le comprenez, il faut vous taire. Mais au moins regardez-la donc de près, cette *Bible* que vous divinisez. Remarquez-en les nombreux défauts. Considérez aussi combien elle est loin d'avoir la moindre apparence d'un recueil complet des vérités religieuses. Que sont en effet les livres qui la composent ? Des relations historiques, des discours sur quelques doctrines particulières, des allégories morales, des prédictions, et des lettres. Est-il un seul de ces écrits qui ait l'aspect d'un traité de la Religion ? En est-il un seul qui paraisse le moins du monde avoir été fait pour l'exposer toute entière ? Et l'ensemble ne repousse-t-il pas avec force cette vaine conjecture ?"

After this, the reader will scarcely be surprised to find this worthy disciple of Ignatius, Loyola and Peter Dens exalting the Fathers of the Church above the Bible and its faithful expositors, and devoting the impious protestant *bibliolâtres* to the wrath and vengeance of God.

"Mais viendra le jour des vengeances. Alors malheur à l'ingratitude ; malheur, malheur, à l'impiété ! Car l'Eternal compte les crimes des hommes, le glaive de sa justice est étendu sur leurs têtes, le feu des châtiments brûle déjà, nul coupable n'échappera. *Il l'a dit, le supreme Arbître des existences ; et ses paroles ne passeront point.*"—See tom. ii. pp. 451, &c.

(This, by-the-by, is rather inconsistent. Where are these

true religion, by overthrowing one prevalent species of superstition : For, as St Cyprian has said, *superstitionibus falsis religio vera subvertitur.*

To the philosopher, the physician, and the divine, I would strongly recommend the study of the proofs, afforded by Animal Magnetism, of the immateriality, independence, and immortality of the human soul.

Before I conclude, I must beg leave to be permitted to add a few words of solemn warning. In attempting to produce the magnetic phenomena, I would earnestly caution individuals against all experiments of mere curiosity. Whatever ludicrous ideas many persons may have been hitherto in the habit of associating with this subject, I can seriously assure them that experience has proved Magnetism to be no trifling matter. Even the opponents of the system acknowledge, whilst its advocates admit, that the injudicious practice of it may

words of God to be found if not in the Bible ? But the author, as we have seen, does not admit that the Bible is the Word of God.)

The theology of this writer can impose upon no person of sense and education. The reason of his hostility to Animal Magnetism is also clear. The discoveries of the professors of that doctrine have revealed the secret of the pretended Roman Catholic miracles ; they have unveiled and exposed their diabolical exorcisms ; and thus threaten to deprive the priesthood of that church of one of the main pillars of their establishment, - of one of the most lucrative branches of their trade.

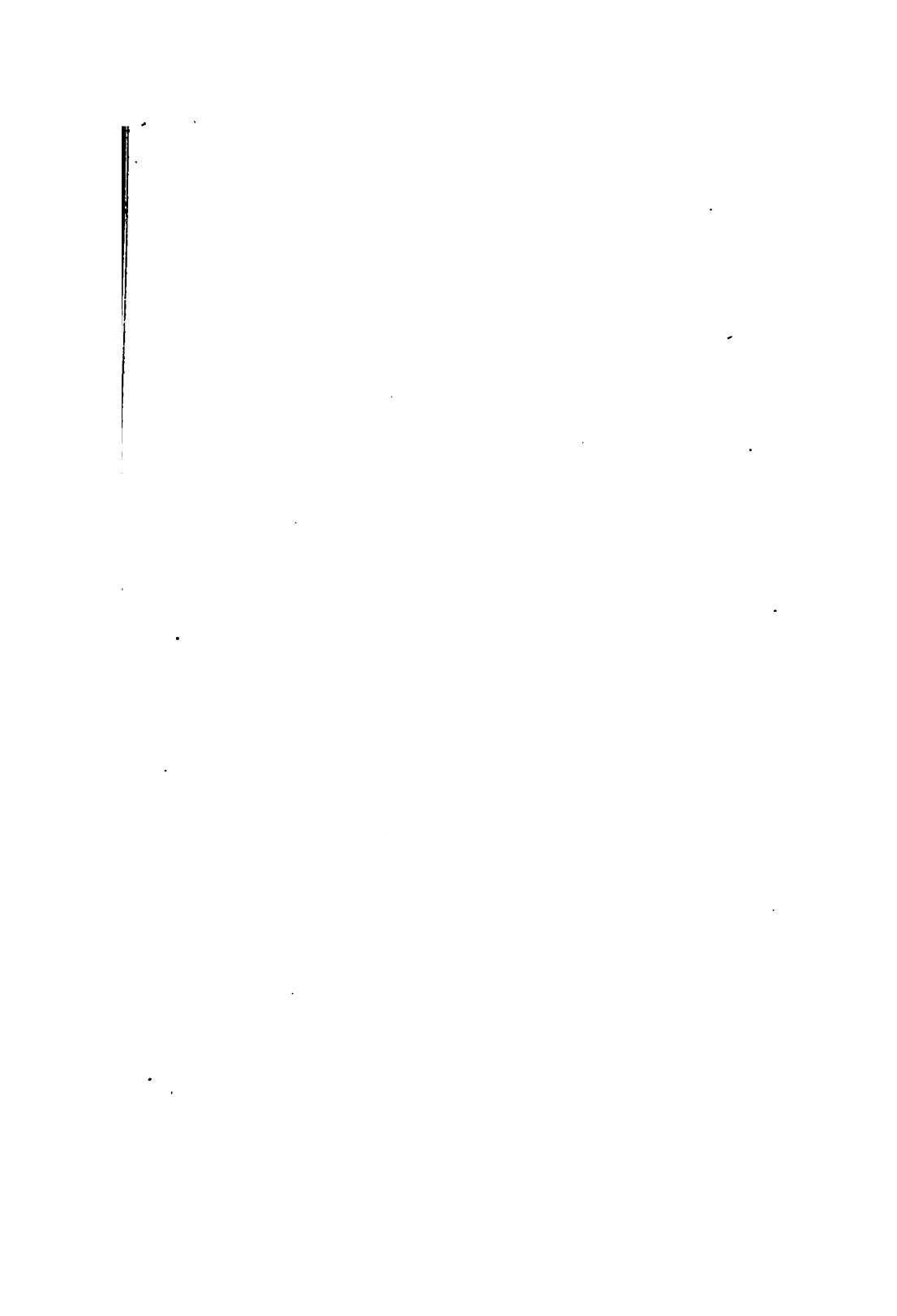
be attended with dangerous consequences. We must not recklessly attempt to handle the thunder-bolt, or to play with the lightning of heaven, lest we be consumed to ashes. Like every higher gift conferred upon us by the Creator, the magnetic faculty ought to be exerted with judgment, prudence, and discretion, and only for benevolent purposes. "We do not know," says the great Dr Hufeland (in his *Journal der Heilkunde*)—"we do not know either the essence or the limits of this astonishing power; but every thing proves that it penetrates the depths of the organism, and the internal life of the nervous system; that it may even affect the mind itself, and disturb its ordinary relations. Whoever, then, undertakes to govern and direct this mysterious power, attempts a very bold task. Let him consider well that he is probably penetrating, as far as is possible, into the most elevated laws of nature. Never let him enter this sanctuary without reverential fear, and without the most profound respect for the principle which he endeavours to set in operation. Above all, let him beware of magnetizing in sport. In medicine, the most indifferent remedy is injurious to persons in health; still more so an agent which is perhaps the most active and energetic of all remedies."

For these reasons, while the unquestionable phenomena of Animal Magnetism suggest to the phi-

losopher the most interesting topics of scientific investigation, it has always been the wish of every intelligent Magnetist, that the remedial practice of the art should be consigned entirely into the hands of the professional physician. Upon the Continent, this object seems to have been already nearly accomplished. In this country, on the contrary, the profession, in general, appear to look upon the whole subject with the most profound apathetic indifference, out of which, it is probable, they will only be eventually aroused, in self defence, by the superior intelligence of the public.

In this work, I have merely touched upon some of the more important consequences which are likely to result from the magnetic discovery. There are many other subordinate topics, connected with the subject, which may probably suggest themselves to the mind of the philosophical inquirer; and these may afford matter for farther discussion, upon some future occasion.

APPENDIX.



No. I.

REPORT

ON THE

MAGNETIC EXPERIMENTS,

MADE BY A COMMITTEE OF THE ROYAL ACADEMY OF
MEDICINE, AT PARIS.

GENTLEMEN,—More than five years have elapsed since a young physician, M. Foissac, whose zeal and talent for observation we have had frequent opportunities of remarking, thought it his duty to draw the attention of the Medical Section to the phenomena of *Animal Magnetism*. With regard to the Report made by the Royal Society of Medicine in 1784, he recalled to our recollection, that, amongst the commissioners charged with conducting the experiments, there was one conscientious and enlightened man, who had published a Report in contradiction to that of his colleagues; that since the period in question, Magnetism had been the object of new experiments and of new investigations; and, with the consent of the section, he proposed to

submit to their examination a somnambulist who appeared to him to be capable of throwing light upon a question, which several of the most intelligent men in France and Germany considered as far from being resolved, although, in 1784, the Academy of Sciences and the Royal Society of Medicine had pronounced an unfavourable judgment.

A committee, composed of MM. Adelon, Burdin the elder, Marc, Pariset, and myself (M. Husson), were appointed by you to report upon the proposition of M. Foissac.

The Report, which was presented to the Section of Medicine at its meeting of the 13th December 1825, concluded that Magnetism ought to be subjected to a new investigation. This conclusion gave rise to an animated discussion, which was prolonged during three meetings—the 10th and 24th of January, and the 14th of February, 1826. At this last meeting, the committee replied to all the objections which had been made to their Report; and at the same meeting, after mature deliberation, after adopting the mode hitherto unusual in matters of science, of an individual scrutiny, the Section decided that a special committee should be appointed, in order to investigate anew the phenomena of Animal Magnetism.

This new committee, consisting of MM. Bourdois, Double, Itard, Gueneau de Hussy, Guersent, Fouquier, Laennec, Leroux, Magendie, Marc, and Thillaye, was

appointed at the meeting of the 28th of February 1826. Some time afterwards, M. Laennec, having been obliged to leave Paris on account of his health, I was named to replace him ; and the committee, thus constituted, proceeded to discharge the duty with which it had been entrusted.

Their first care, previous to the retirement of M. Laennec, was to examine the somnambulist who had been offered to them by M. Foissac.

Various experiments were made upon her within the premises of the Academy ; but we must confess that our inexperience, our impatience, our distrust, perhaps too strongly manifested, permitted us only to observe certain physiological phenomena sufficiently curious, which we shall communicate to you in the sequel of our Report, but in which we did not recognise any peculiar phenomena of somnambulism. This somnambulist, fatigued, no doubt, with our importunities, ceased, at this time, to be placed at our disposal ; and we were obliged to search the hospitals for the means of prosecuting our experiments.

M. Pariset, physician to the *Salpêtrière*, was more capable than any other of assisting us in our search. He set about the task with an ardour, which, unfortunately, led to no result. The committee, who founded a great part of their hopes upon the resources which this hospital might be capable of furnishing, whether in regard to the individuals who might be subjected to

experiment, or to the presence of M. Magendie, who had requested to accompany them as one of the committee ; the committee, we say, seeing itself deprived of those means of instruction which it had expected to find, had recourse to the zeal of each of its individual members.

M. Guersent promised us his assistance in the hospital *des Enfans*, M. Fouquier in the hospital *de la Charité*, MM. Gueneau and the Reporter in the *Hôtel-Dieu*, M. Itard in the Institution for the Deaf and Dumb ; and thenceforward, each prepared to make experiments, which were subsequently to be witnessed by the other members of the committee. Other and more powerful obstacles soon arrested our labours ; the causes from which these obstacles proceeded are unknown to us ; but, in virtue of a decree of the General Council of the Hospitals, of date the 19th of October 1825, which prohibited the use of every new remedy which had not previously been approved of by a committee appointed by the Council, the magnetic experiments could not be continued at the hospital *de la Charité*.

Reduced to their own resources, to those which the particular relations of each of its individual members might present, the committee made an appeal to all the physicians who were known to make Animal Magnetism the object of their researches. We requested them to allow us to witness their experiments, to accompany them during their progress, and to confirm

the results. We are bound to declare that we have been most effectually assisted in our investigations by several of our brethren, and especially by the gentleman who first suggested the inquiry, M. Foissac. We do not hesitate to declare, that it is to his constant and persevering intervention, and to the active zeal of M. Dupotet, that we are indebted for the greater part of the materials embodied in the Report which we now present to you. Nevertheless, gentlemen, do not believe that your committee, in any circumstance, intrusted to others than its own members the task of directing the experiments which we witnessed, that any others than the Reporter held the pen, at any instant; for the purpose of compiling the minutes of procedure, and of commemorating the succession of the phenomena which presented themselves, and exactly as they presented themselves. The committee proceeded to fulfil their duties with the most scrupulous exactness; and if we render justice to those who assisted us with their kind co-operation, we must, at the same time, destroy even the slightest suspicion which might arise in your minds with regard to the share, greater or less, which others than ourselves may be supposed to have had in the investigation of this question. Your committee always suggested the different modes of experimenting, traced the plan of inquiry, directed the course to be pursued, followed and described its progress. Finally, in availing ourselves of the services of auxiliaries more

or less zealous and enlightened, we have always been present, and always impressed our own direction upon every thing that has been done.

Thus you will see that we admit no experiment made without the presence of the committee, even by members of the Academy. Whatever confidence the spirit of confraternity, and the reciprocal esteem with which we are all animated, ought to establish amongst us, we felt that in the investigation of a question of which the solution is so delicate, we should trust none but ourselves, and that you could trust only to our guarantee. From this rigorous exclusion, however, we have thought proper to except a very curious phenomenon observed by M. Cloquet, which we have admitted, because it was already, in a manner, the property of the Academy, the Section of Surgery having been occupied in its investigation at two of its meetings.

This reserve, gentlemen, which the committee imposed upon itself, in regard to the use of various facts relative to the question which we studied with so much care and impartiality, would give us the right to demand a return of confidence, if any persons who had not witnessed our experiments should be inclined to raise discussions in regard to their authenticity. For the same reason that we only demand your confidence in respect of what we ourselves have seen and done, we cannot admit that those who, at the same time as ourselves and along with us, had neither seen nor done,

can attack or call in question that which we allege to have observed. And, moreover, as we always entertained the greatest distrust of the announcements which were made to us of wonders to come, and as this feeling constantly predominated during all our researches, we think we have some right to require that, although you may suspend your belief, you will, at least, raise no doubt in regard to the moral and physical dispositions with which we always proceeded to the observations of the various phenomena of which we were witnesses.

Thus, gentlemen, this Report, which we are far from presenting to you with the view of fixing your opinion upon the question of Magnetism, cannot and ought not to be considered in any other light than as the combination and classification of the facts which we have hitherto observed: We offer it to you as a proof that we have endeavoured to justify your confidence; and while we regret that it is not founded upon a greater number of experiments, we trust that you will receive it with indulgence, and that you will hear it read with some interest. At the same time, we think ourselves bound to make you aware, that what we have seen in the course of our experiments bears no sort of resemblance to what the Report of 1784 relates with regard to the magnetizers of that period. We neither admit nor reject the existence of a fluid, because we have not verified the fact; we do not speak of the *baguet*,—of

the *baguette*,—of the chain established by the medium of a communication of the hands of all the magnetised patients,—of the application of means prolonged, sometimes during several hours, to the hypochondriac region and the stomach,—of the vocal and instrumental music which accompanied the magnetic operations,—nor of the assemblage of a great number of people together, who were magnetised in the presence of a crowd of witnesses ; because all our experiments were made in the most complete stillness, in the most absolute silence, without any accessory means, never by immediate contact, and always upon a single person at a time.

We do not speak of that which, in the time of Mesmer, was so improperly called the *crisis*, and which consisted of convulsions, of laughter, sometimes irrepressible, of immoderate weeping, or of piercing cries, because we have never met with these different phenomena.

In all these respects, we do not hesitate to declare, that there exists a very great difference between the facts observed and decided upon in 1784, and those which we have collected in the work which we have the honour to present to you ; that this difference establishes a most glaring line of demarcation between the one and the other ; and that, if reason has done justice in regard to a great proportion of the former, the spirit of observation and research should endeavour to multiply and appreciate the latter.

It is with Magnetism, gentlemen, as with many of the other operations of nature ; that is to say, a certain combination of conditions is required in order to the production of such and such effects. This is an incontrovertible principle, which, if it required any proof, might be confirmed by that which takes place in divers physical phenomena. Thus, without a certain dryness of the atmosphere, electricity would be but feebly developed—without heat, we should never obtain that combination of lead with tin, which constitutes the common solder of the plumbers—with out the light of the sun, we should not witness the spontaneous combustion of a mixture of equal parts of chlorine and hydrogen, &c. &c. Whether these conditions be external or physical, as in those cases to which we have just referred ; whether they be internal or moral, such as the magnetizers allege to be indispensable to the development of the magnetic phenomena—it is enough that they exist, and that they should be *exacted* by them, to make it incumbent upon your committee to endeavour to unite them, and to make it their duty to submit to them. It was, however, neither our duty nor our inclination to divest ourselves of that indefatigable curiosity which induced us, at the same time, to vary our experiments, and, if we could, to set at fault the practices and the promises of the magnetizers. For this double reason, we conceived ourselves bound to disburthen ourselves of the obligation they would impose of having a strong

faith, of being animated solely by benevolent motives. We sought only to be inquisitive, mistrustful, and exact observers.

Neither did we think it our duty to endeavour to explain these conditions. This would have been a question of pure controversy, for the solution of which we had no better means than in attempting to explain the conditions of other physiological phenomena, such as those that regulate the action of different medicines. These are questions of the same kind, upon which science has yet pronounced no judgment.

In all the experiments which we made, we invariably observed the most rigorous silence, because we conceived that, in the development of phenomena so delicate, the attention of the magnetizer and of the magnetised ought not to be distracted by any thing foreign. Besides, we did not wish to incur the reproach of having injured the success of the experiment by conversation or by other distracting causes; and we always took care that the expression of our countenances should neither operate as a constraint upon the magnetizer, nor inspire doubt into the mind of the person magnetised. Our position—we are anxious to repeat it—was constantly that of inquisitive and impartial observers. These different conditions, several of which had been recommended in the works of the respectable M. Delenze, having been well established, we proceed to state what we observed.

The person to be magnetised was placed in a sitting posture, either in a convenient elbow-chair, or on a couch—sometimes even in a common chair.

The magnetizer, seated on a chair a little more elevated, opposite, and at the distance of about a foot from the patient, seemed to collect himself for some moments, during which he took the thumbs of the patient between his two fingers, so that the interior parts of the thumbs were in contact with each other. He fixed his eyes upon the patient, and remained in this position until he felt that an equal degree of heat was established between the thumbs of the magnetizer and the magnetised. He then withdrew his hands, turning them outward, placed them on the shoulders, where he allowed them to remain about a minute, and conducted them slowly, by a sort of very slight friction, along the arms to the extremity of the fingers. This operation he performed five or six times, which the magnetizers call a *pass*; he then placed his hands above the head, held them there a moment, drew them downwards in front of the face, at the distance of one or two inches, to the *epigastrium* (pit of the stomach), resting his fingers upon this part of the body; and he descended slowly along the body to the feet. These *passes* were repeated during the greater part of the sitting; and when he wished to terminate it, he prolonged them beyond the extremity of the hands and feet, shaking his fingers each time. Finally, he made transverse *passes*

before the face and the breast, at the distance of from three to four inches, presenting his two hands approximated to each other, and separating them abruptly.

At other times, he approximated the fingers of each hand, and presented them at the distance of three or four inches from the head or the stomach, leaving them in this position during one or two minutes ; then, withdrawing and approximating them alternately with more or less rapidity, he imitated the very natural movement which is performed when we wish to shake off a liquid which has moistened the extremity of our fingers. These different modes of operation have been adopted in all our experiments, without any preference of the one to the other. Frequently we employed only one, sometimes two, and in the choice we made, we were never guided by the idea that one method would produce an effect more readily and more conspicuously than the other.

In enumerating the facts observed, your committee shall not follow precisely the order of time in which they were collected ; it has appeared to them to be much more convenient, and, above all, much more rational, to present them to you classified according to the more or less conspicuous degree of the magnetic action recognised in each.

We have, therefore, established the following four divisions :

- I. Magnetism has no effect upon persons in a state of sound health, nor upon some diseased persons.
- II. In others, its effects are slight.
- III. These effects are sometimes produced by *ennui*, by monotony, by the imagination.
- IV. We have seen them developed independently of these last causes, most probably as the effect of Magnetism alone.

I. *Magnetism without effect.*—The Reporter of the Committee has several times submitted to the operation of Magnetism. Once, amongst others, while in the enjoyment of perfect health, he had the patience to remain seated in the same position for a period of three quarters of an hour, with his eyes closed, in complete immobility; and he declares, that, during the operation, he experienced no kind of effect, although the *ennui* of his position, and the absolute silence which he had recommended to be observed, might have been very capable of producing sleep. M. Demussy submitted to the same experiment with the same result. At another time, when the reporter was tormented with very violent and very obstinate rheumatic pains, he allowed himself to be repeatedly magnetized, and he never obtained by this means the slightest mitigation, although the acuteness of his sufferings made him vehemently desire to have them removed, or at least alleviated.

On the 11th of November 1826, our respectable

colleague, M. Bourdois, had experienced, during two months, an indisposition which required particular attention, upon his part, to his habitual mode of living. This indisposition, he told us, was not his ordinary or normal state, he knew the cause of it, and could indicate the point from which it proceeded. In these circumstances, which, as M. Dupotet affirmed, were favourable to the development of the magnetic phenomena, M. Bourdois was magnetised by M. Dupotet, in presence of MM. Itard, Marc, Double, Gueneau, and the Reporter. The experiment commenced at thirty-three minutes past three o'clock; the pulse was then at 84, which M. Double and M. Bourdois declared to be the normal state. At forty-one minutes past three the experiment terminated, and M. Bourdois experienced absolutely no effect. We only observed that the pulse had fallen to 72, that is to say 12 less than before the operation.

At the same meeting, our colleague, M. Itard, who had been afflicted for eight years with chronic rheumatism, the seat of which was then in the stomach, and who was suffering at the time from a recurrent crisis of the disease (*crise habituelle attachée à sa maladie*—these are his own expressions), caused himself to be magnetized by M. Dupotet. At fifty minutes past three o'clock, his pulse was at 60; at fifty-seven minutes past three he closed his eyes; at three minutes past four the operation terminated. He told us that, during the

time he had his eyes open, he thought that he felt the impression made upon his organs by the passage of the fingers, as if they had been struck by a blast of warm air; but that, after having closed them, and the experiment continuing, he had no longer the same sensation. He added, that, at the end of five minutes, he felt a headache, which affected all the forehead and the base of the orbits, with a sensation of dryness in the tongue, although when observed by us, the tongue was very moist. Finally, he said that the pain which he felt previous to the operation, and which he had described as depending upon the affection of which he complained, had disappeared, but that it was, in general, very variable. We remarked that the pulse had risen to 74, that is to say, 14 more than before the operation.

We might certainly have reported other observations in which magnetism manifested no sort of activity; but besides the inconvenience of referring to facts unattended with any result, we conceived it sufficient for you to be made acquainted with the experiments which three of your committee made upon themselves, in order to have a more complete assurance of the truth of our investigations.

II. *Slight effects of Magnetism.*—It cannot have escaped you, gentlemen, that the last case in the preceding series presented a commencement of the magnetic action. We have, accordingly, placed it at the

end of the section, in order to serve as a link to connect those which are to follow.

M. Magnien, doctor of medicine, aged 54 years, residing in the street St Denis, No. ——, walked with great difficulty, in consequence of a fall he had some years before upon the left knee, and very probably, also, in consequence of the growth of an aneurism of the heart, which carried him off in the month of September last. He was magnetized by the reporter upon the 18th, 19th, 20th, 21st, 22d, and 23d of August 1826. The number of pulsations was less at the end of five sittings, than at the commencement, the pulse falling from 96 to 90, from 96 to 86, from 76 to 71, from 82 to 79, from 80 to 78, and at the sixth sitting, the number was the same at the commencement and at the termination, viz. 83. The inspirations were equal, excepting upon one occasion, when they were 20 at the beginning, and 26 at the end. M. Magnien constantly experienced a sensation of coolness in all those parts of his body to which the fingers of the magnetizer were directed, and kept for a long time in the same direction. This phenomenon never once failed to present itself.

Our colleague, M. Roux, who complained of a chronic affection of the stomach, was magnetized six times by M. Foissac, on the 27th and 29th of September, and on the 1st, 3d, 5th, and 7th of October, 1827. He experienced, at first, a sensible diminution in the num-

ber of inspirations and pulsations, afterwards, a slight degree of heat in the stomach, a great degree of coolness in the face; the sensation of a vaporization of ether, even when no manipulations were practised before him, and, finally, a decided disposition to sleep.

Anne Bourdin, aged twenty-five years, residing in the street Du Paon, No. 15, was magnetized on the 17th, 20th, and 21st of July, 1826, at the Hotel-Dieu, by M. Foissac, in presence of the reporter. This woman said she complained of headach (*cephalalgia*), and of a nervous pain (*neuralgia*), which had its seat in the left eye. During the three magnetic sittings, we perceived the inspirations increase from 16 to 39, from 14 to 20, and the pulsations from 69 to 79, from 60 to 68, from 76 to 95. The head grew heavy during these three experiments,—the woman fell asleep for some minutes,—no change was effected in the nervous pain of the eye, but the headach was alleviated.

Theresa Tierlin was magnetized on the 22d, 23d, 24th, 29th, and 30th of July, 1826. She had been admitted into the Hotel-Dieu, complaining of pains in the belly and in the lumbar region. During the magnetic operations, we observed the inspirations increase from 15 to 17, from 18 to 19, from 20 to 25, and decrease from 27 to 24; and the pulsations increased from 118 to 125, from 100 to 120, from 100 to 113, from 95 to 98, and from 117 to 120. We remarked that

this woman seemed to be afraid of the motions of the fingers and hands of the magnetizer,—that she attempted to avoid them by drawing back her head,—that she followed them with her eyes in order that she might not lose sight of them, as if she dreaded that they would do her some injury. She was evidently teased and annoyed during the five sittings.

We observed in her frequent and long-drawn sighs, sometimes interrupted, winking and depression of the eyelids, rubbing the eyes, repeated deglutition of the saliva, a motion which, in the case of other magnetized persons, has constantly preceded sleep, and, finally, the disappearance of the pain in the lumbar region.

Your Committee, in arranging these different facts, has only wished to fix your attention upon the series of physiological phenomena which are developed in the two last cases. We can attach no importance whatever to the partial amelioration in the morbid symptoms of the very insignificant disorders of these two women. If these disorders existed, time and repose may have triumphed over them. If they did not exist, as is too frequently the case, the feigned malady might have disappeared as well without Magnetism as with it. Thus, gentlemen, we have only presented them to you as the first elements, as it were, of the magnetic action, which you will see more decidedly manifested in the sequel of this report.

III. *The effects observed are frequently produced by ennui, by monotony, and by the imagination.*—Your Committee has remarked upon several occasions, that the monotony of the gestures employed, the religious silence observed during the operations, the *ennui* occasioned by remaining long in the same position, have produced sleep in several individuals who were not subjected to the magnetic influence, but who were in the same physical and moral circumstances in which they had been previously set asleep. In these cases, it was impossible for us not to recognise the influence of the imagination; an influence by the force of which these individuals, believing that they were magnetized, experienced the same effects as if they really had been so. We shall adduce, in particular, the following observations.

Mademoiselle Lemaitre, twenty-five years of age, had been for three years afflicted with an affection of the sight (*amaurosis*), when she was admitted into the *Hôtel-Dieu*. She was magnetized upon the 7th, 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, and 22d of July, 1826. We shall not here repeat the different phenomena which marked the commencement of the magnetic action, and which we have already detailed in the preceding section,—such as the winking, the depression of the eyelids, the rubbing of the eyes as if to get rid of a disagreeable sensation, the sudden inclination of the head and the swallowing of the saliva. These,

as we have already said, are signs which we have constantly observed, and to which, therefore, we shall not revert. We shall only observe, that we remarked a commencement of drowsiness at the end of the third sitting; that this drowsiness increased until the eleventh; that, dating from the fourth, there were manifested convulsive motions of the muscles of the neck, of the face, the hands and the shoulder; and that, at the end of each sitting, we found a greater acceleration of the pulse than at the commencement. But what ought most to fix your attention is, that after having been magnetized ten times, and having appeared during the eight last successively more and more susceptible of the magnetic action, at the eleventh sitting, the 20th of July, M. Dupotet, her magnetizer, upon the suggestion of the reporter, seated himself behind her, without making any gesture, without having any intention of magnetising her, and that she experienced a more decided tendency to sleep, than upon any of the preceding days, accompanied, however, with less of agitation and convulsive motions. There was no perceptible improvement of her sight since the commencement of the operations, and she left the *Hotel-Dieu* in the same state as when she had been admitted.

Louisa Ganot, a servant, residing in the street *Du Ballon*, No. 19, was admitted into the *Hotel-Dieu* upon the 18th of July 1826, in order to be treated for a *leucorrhœa*, and was magnetised by M. Dupotet on the

21st, 22d, 23d, 24th, 25th, 26th, 27th, and 28th of July, 1826. She told us that she was subject to nervous attacks, and, in reality, convulsive motions of an hysterical character were constantly manifested during all the magnetic sittings. Thus, the plaintive cries, the stiffness and contortion of the superior members, the direction of the hand towards the pit of the stomach, the bending of the whole body backwards; so as to form an arch of which the concavity was in the back, some minutes of sleep which terminated this scene,—all denoted in this woman hysterical attacks, occasioned, it might have been believed, by the magnetic influence. We wished to ascertain how far the imagination might act upon her, and at the 6th sitting, upon the 26th of July, M. Dupotet, who had hitherto magnetized her; placed himself in front, at the distance of two feet, without touching her, without practising any manipulation or external act, but having an energetic intention of producing in her some of the magnetic phenomena. The agitation, the convulsive motions, the long and interrupted sighs, the stiffness of the arms, did not fail to manifest themselves as at the preceding sittings. On the day after, the 27th, we placed M. Dupotet behind her, and she was seated in the great elbow-chair which she had used in the preceding operations. The magnetizer merely directed his fingers opposite the middle part of her back; consequently, the back of the chair was interposed between the magnetizer and the magnetised.

In a short time, the convulsive motions of the preceding days were displayed with greater violence, and she frequently turned round her head. She told us when she awoke, that she had executed this motion, because it appeared to her that she was annoyed by something which acted upon her from behind. Finally, after having observed, upon the 26th and 27th of July, the development of the magnetic phenomena, although in the one case there were no manipulations at all, but only the intention, while, in the other, these very simple external acts (the direction of the fingers) were executed behind her back, and without her knowledge ; we were desirous of ascertaining whether the same phenomena could be reproduced in the absence of the magnetizer. The experiment was made upon the 28th of July. She was placed in precisely the same circumstances as in the former experiments,—the same hour of the day (half-past five in the morning),—the same locality, the same silence, the same elbow-chair, the same persons present, the same preparations ; all, in short, exactly the same as on the preceding days, with the exception of the magnetizer, who remained at home. The same convulsive motions were evinced, perhaps with a little less promptitude and violence, but always with the same character.

A man aged 27, subject, since his 15th year, to attacks of epilepsy, was magnetised fifteen times at the *Hotel-Dieu*; from the 27th of June to the 17th of July,

1826, by the reporter. Sleep began to appear at the 4th sitting (1st of July), and became stronger at the 5th (2d of the same month). In the following, it was rather slight and easily interrupted, either by noise, or by questions put to him. In the 13th and 14th, the reporter took the precaution to place himself behind the elbow-chair in which he was seated, and there to perform his manipulations. At the 15th sitting, upon the 17th of July, he continued to place the patient, as in the case of the woman Ganot, in the same situation in which he had been placed since the commencement of the treatment: he also placed himself behind the elbow-chair, and the same phenomena of drowsiness were manifested, although he did not magnetise him. From this series of experiments we found ourselves necessarily bound to conclude, that these two women and this epileptic patient experienced the same effects when they were actually magnetised, and when they only believed themselves to be so, and that, consequently, the imagination was sufficient to produce in them phenomena which, with little attention, or with a prejudiced mind, might have been attributed to magnetism.

But we are anxious to declare, that there are several other cases, not less rigorously observed, in which it would have been difficult for us not to admit magnetism as the cause of the phenomena. These we place in our 4th class.

IV. Thus, a child of 28 months, subject, like its father, of whom we shall have occasion to speak in the sequel, to attacks of epilepsy, was magnetised in the house of M. Bourdois, by M. Foissac, upon the 6th of October 1827. Almost immediately after the commencement of the treatment, the child rubbed its eyes, bent its head to one side, supported it upon one of the cushions of the sofa where we had placed it, yawned, appeared agitated, scratched its head and its ears, seemed to contend against the approach of sleep, and soon rose, if we may be allowed the expression, grumbling ; it was seized with the desire of making water, and, after being satisfied in this respect, it appeared very sprightly. We magnetised it again ; but as there appeared, this time, no symptom of drowsiness, we terminated the experiment.

There occurred to us a similar case of a deaf and dumb lad, eighteen years of age, who had long been subject to very frequent attacks of epilepsy, and upon whom M. Itard wished to try the effects of magnetism. This young man was magnetised fifteen times by M. Foissac. We need scarcely say here, that the epileptic attacks were entirely suspended during the sittings, and that they did not return until eight months afterwards—a circumstance unprecedented in the history of his disease; but we shall observe, that the appreciable phenomena exhibited by this young man during the treatment were a heaviness of the eyelids, a ge-

neral numbness, a desire to sleep, and sometimes *vertigo*.

A still more decided effect was observed in a member of the committee, M. Itard, who, as we have already observed, had submitted to the magnetic treatment on the 11th of November 1826, without having experienced any effect. When magnetised by M. Dupotet on the 27th of October 1827, he experienced a heaviness without sleep, a decided sensation of a peculiar nature—a setting on edge (*agacement*) in the nerves of the face, convulsive motions in the nostrils, in the muscles of the face and jaws, and a flow of saliva of a metallic taste—a sensation analogous to that which he had experienced from galvanism. The two first sittings produced headache, which lasted several hours, and, at the same time, his habitual pains were considerably diminished. A year afterwards, M. Itard, who had pains in the head, was magnetised eighteen times by M. Foissac. The treatment almost constantly produced a flow of saliva, twice with a metallic flavour. We observed little motion and muscular contraction, excepting some twitchings (*soubresauts, subsultus*) of the tendons of the muscles of the fore-arms and the legs. M. Itard told us that his headache ceased each time, after a treatment of from 12 to 15 minutes, that it entirely disappeared by the 9th sitting, when it was recalled by an interruption of the magnetic operations.

for three days, and again dissipated by the same means. He experienced during the treatment a sensation of general health, an agreeable disposition to sleep, somnolency accompanied with vague and pleasant reveries. His complaint underwent, as before, a sensible amelioration, which, however, was not of long duration after he ceased to be magnetised.

These three cases appeared to your Committee to be altogether worthy of remark. The two individuals who formed the subject of the two first—the one a child of 28 months, the other a deaf and dumb lad—were ignorant of what was done to them. The one, indeed, was not in a state capable of knowing it; and the other never had the slightest idea of magnetism. Both, however, were sensible of its influence; and most certainly it is impossible, in either case, to attribute this sensibility to the imagination. Still less is it attributable to this principle in the case of M. Itard.

It is not over men of our years, and, like us, always on their guard against mental error and sensible delusion, that the imagination, such as we view it, has any sway. At this period of life, it is enlightened by reason, and disengaged from those illusions by which young persons are so easily seduced. At this age we stand upon our guard, and distrust, rather than confidence, presides over the different operations of our minds. These circumstances were happily united in our colleague; and the Academy knows him too well

not to admit that he really experienced what he declares that he felt. His veracity was the same upon the 11th of October 1826, when he declared that he felt nothing, and upon the 27th of October 1827, when he affirmed to us that he was sensible of the magnetic action.

The somnolency observed in the three cases which we have just reported appeared to us to be the transition from the waking state to that which is called the magnetic sleep, or somnambulism—words which your Committee have deemed improper, as they may give rise to false ideas; but which we have been forced to adopt, in consequence of the impossibility of changing them with advantage.

When the individual subjected to the operation of magnetism is in the state of somnambulism, the magnetizers assure us, that, in general, he only hears those persons who have been placed in magnetic connexion (*en rapport*) with him, either the person who operates upon him; or those whom the operator has placed in communication with him, by means of joining hands, or some species of immediate contact. According to them, the external organs of the senses become wholly, or almost wholly, dormant (*assoupis*), and, notwithstanding, he experiences sensations. They add, that there appears to be awakened in him an internal sense, a species of instinct which explains to him, sometimes the state of his own health, sometimes that of other

persons with whom he is placed in magnetic connexion (*en rapport*). During the whole duration of this singular state, he is, say they, subjected to the influence of his magnetizer, and appears to obey him with an unreserved docility, without manifesting any strong exertion of internal volition, either by gestures or words.*

This singular phenomenon, gentlemen, appeared to your Committee to be an object the more worthy of their attention and investigation, because, although M. Bailly seems to have had a glimpse of it, it was still unknown at the period when the subject of animal magnetism was submitted to the examination of the Commissioners, who presented their Report upon it in 1784; and, besides, it was for the purpose of studying it that M. Foissac had, if we may use the expression, *disinterred* the question of magnetism. It was only in 1784, after the publication of the Report of the Commissioners, that this phenomenon was observed for the first time at Buzancy, near Soissons, by one of the most zealous disciples and promoters of animal magnetism, M. de Puységur.

* "Magnetised persons," says the illustrious and unfortunate Bailly, at the 7th page of his celebrated report presented to the Royal Academy of Sciences in 1784, "may appear to be plunged into a state of total insensibility; but the voice of the magnetizer, his look, a sign revives them; and we cannot hesitate to recognise in these invariable effects a great influence which acts upon the patients, governs them, and of which the magnetizer appears to be the depositary."

Upon a subject which might so easily be got up by quackery, and which appeared to us so remote from all that was previously known, your Committee felt that they were bound to be very rigid respecting the kind of evidence admitted to prove the phenomenon, and, at the same time, that they ought to keep themselves continually upon their guard against that illusion and imposture of which they might dread being made the dupes.

The Committee request your attention to the following cases ; in the arrangement of which it has been their object, that the development of this singular state, and the manifestation of the phenomena which characterize it, might be presented to you in a regularly increasing progression, so as to become more and more evident.

Mademoiselle Louisa Delaplane, aged 16 years, residing in the street Tirechape, No. 9, had a catamenial suppression, accompanied with pains, and with tension and swelling in the lower part of the abdomen, when she was admitted into the *Hotel-Dieu*, on the 13th of June 1826. Leeches applied to the *labia vulvæ*, baths, and, in general, an appropriate treatment, producing no relief, she was magnetised by M. Foissac on the 22d, 23d, 24th, 25th, 26th, 27th, and 28th of June 1826. She fell asleep at the first sitting, at the end of eight minutes. She was spoken to, but made no answer ; a white iron screen was thrown down near her—she

continued in a state of complete insensibility ; a glass bottle was forcibly broken—she awoke with a start. At the second sitting, she answered by affirmative and negative motions of the head to the questions which were addressed to her. At the third, she gave us to understand, that, in two days, she would speak and point out the nature and seat of her complaint. She was pinched very strongly, so as to produce a livid mark—she gave no sign of sensibility. A bottleful of ammoniac was opened under her nose. She was insensible to the first inspiration—at the second, she carried her hand to her nose. When she awoke, she complained of pain in the part which had been pinched, as also of the fumes of the ammoniac, and she drew back her head hurriedly. The parents of this girl resolved to remove her from the Hotel-Dieu on the 30th of the same month, because they heard that she was subjected to the magnetic treatment. She was still, however, magnetised three or four times. In the course of these experiments she never once spoke, and answered only by signs to the different questions addressed to her. We shall add that, insensible to the tickling of a feather introduced into her nostrils, moved along her lips and the sides of her nose, and to the noise of a board thrown suddenly upon a table, she was awakened by the noise of a copper basin thrown against the floor, and at the noise of a bag of crowns which was emptied from above into the same basin.

At another time, upon the 9th of December 1826, M. Dupotet, in presence of the Committee, magnetised Baptiste Chamet, carman at Charonne, whom he had magnetised two or three years before. At the end of eight minutes, repeatedly interrupted in order to ascertain from him whether he was asleep, he suddenly made an affirmative motion of the head. Several questions were put to him without obtaining an answer. As he seemed to suffer pain, he was asked what ailed him, when he pointed with his hand to his breast. He was again asked what part that was. He answered that it was the liver, still pointing to his breast. M. Guersent pinched him severely on the left wrist, and he manifested no sense of pain. We opened his eyelid, which, with difficulty, yielded to our attempts, and we found the ball of the eye turned, as if convulsively, towards the top of the orbit, and the pupil perceptibly contracted.

In these two last cases, your Committee witnessed the first appearance of somnambulism—of that faculty by means of which the magnetizers say, that, in the dormant state of the external organs of sense, there is developed in the persons magnetised an internal sense, and a species of instinct capable of manifesting themselves by rational external actions. In each of the cases above reported, your Committee perceived—whether in the answer given to questions put either by signs or by words, or in the prognostications, always

deceitful, indeed, of events which never took place—the first traces of the expression of a commencement of intelligence.

The three following cases will prove to you with what distrust we ought to regard the promises of certain pretended somnambulists.

Mademoiselle Josephine Martineau, aged 19 years, residing in the street St Nicolas, No. 37, had been affected for three months with a chronic inflammation of the bowels (*gastritis*), when she was admitted into the Hotel-Dieu, upon the 5th of August 1826. She was magnetised by M. Dupotet, in presence of the reporter, fifteen days consecutively, from the 7th to the 21st of the same month, twice between four and five in the afternoon, and thirteen times from six to seven in the morning. She began to sleep at the second sitting, and at the fourth, to answer the questions which were addressed to her. We need not repeat to you, that at the end of each sitting, the pulse was more frequent than at the commencement, and that she preserved no recollection of any thing that took place during her sleep. These are ordinary phenomena, which have been previously well established by other magnetizers. Our business here is with somnambulism, and it is this phenomenon which we endeavoured to observe in Mademoiselle Martineau. In her sleep, she said that she did not see the persons present, but that she heard them; and no person was speaking. When cross-in-

terrogated about this matter, she answered that she heard them when a noise was made. She said that she would not recover until she was purged; and for this she prescribed three ounces of manna, and English pills to be taken two hours after the manna. The next and following days, the reporter gave her no manna, but administered four pills of the crumb of bread in two days. During these two days she had four stools. She said that she would soon awake after five or ten minutes' sleep, and she did not awake until after seventeen and sixteen. She announced that, upon a certain day, she would give us a detailed account of the nature of her complaint; and when the day arrived, she told us nothing. In short, she was at fault every time.

M. de Geslin, residing in the street *de Grenelle St Honoré*, No. 37, wrote to inform the Committee, on the 8th of July 1826, that he had at his disposal a somnambulist, Mademoiselle Couturier, lace-maker, aged 30 years, residing in the same house with himself, who, amongst other faculties, possessed that of being able to read the thoughts of her magnetizer, and to execute the orders which he communicated to her mentally. The proposal of M. de Geslin was too important not to be accepted with eagerness. M. Gueneau and the reporter waited upon M. de Geslin, who repeated the assurances which he had given us in his letter relative to the surprising faculties of his somnambulist; and

after having set her asleep by the process we have already described, he requested them to inform him what they wished him to require, mentally, of his somnambulist.

One of us—the reporter—placed himself at a desk, for the purpose of writing down with the utmost exactness every thing that might occur; and the other, M. Gueneau, undertook to write upon slips of paper, which he communicated to his colleague, the orders which we both wished to be communicated to the patient.

Upon the first slip of paper, M. Gueneau wrote the following words: *Go and sit down upon the stool in front of the piano.* M. de Geslin having conceived this mentally, told the somnambulist to do that which he required of her. She rose from her place, and going up to the clock, she said it was twenty minutes past nine. M. de Geslin told her that was not what he required her to do; she then went into the next room. She was informed that she was still mistaken when she resumed her place. She was mentally bid to scratch her forehead. She stretched out her hand, but did not execute the motion required. The magnetizer complained that she did not do what he desired her: She rose and changed her seat. We requested that, when M. de Geslin held up his hand, she should hold up hers, and keep it suspended until that of the magnetizer fell. She raised her hand, which remained immoveable, and

and did not fall until five minutes after that of M. de Geslin. The back of a watch was presented to her—she said it was thirty-five minutes past nine, and the hand pointed at seven o'clock. She said there were three hands, and there were only two. A watch with three hands was substituted, and she said there were two—that it was forty minutes past nine; while the watch indicated twenty-five minutes past nine. She was placed *en rapport* with M. Gueneau, and told him a number of things with regard to the state of his own health which were altogether erroneous, and in direct contradiction to what our colleague had written upon this subject before the experiment. To sum up all, this lady did not fulfil any of the promises which had been made to us; and we thought ourselves authorized to believe, that M. de Geslin had not taken all the proper precautions to prevent being led into error, and that this was the cause of his belief in the extraordinary faculties he attributed to his patient—faculties which we could in no degree recognise.

M. Chapelain, doctor of medicine, residing in the *Cour Batave*, No. 3; informed the Committee, upon the 14th of March 1828, that a woman of 24 years of age, residing in his house, and who had been recommended to him by our colleague M. Caille, had announced, when set asleep by the magnetic process, that next day, at fifteen minutes from eleven in the evening, *se teniam productorem brachio ejектурām esse*. Your

Committee had too great a desire to witness the result of this annunciation, to neglect the opportunity thus presented. Accordingly, MM. Itard, Thillaye, and the reporter, accompanied by two members of the Academy, MM. Caille and Virey, as also Doctor Dance, at present physician to the hospital Cochin, repaired next day, at fifty-five minutes past ten in the evening, to the house of this woman. She was immediately magnetised by M. Chapelain, and set asleep at eleven o'clock. (*Here are omitted some indelicate details, of little or no importance in themselves, and only shewing the futility of the patient's prognosis.*) Here, then, are three cases, well established, and we might quote others, in which there evidently was error, or an attempt to deceive, on the part of the somnambulists, either in what they promised to do, or in their annunciations of what was to happen.

In these circumstances, we ardently desired to elucidate the question, and we thought that it was essential, as well to the interest of the investigations in which we were engaged, as to withdraw ourselves from the deceptions of quackery, to ascertain whether there was any sign by which we could be assured of the real existence of somnambulism ; that is to say, whether the magnetised person, when asleep, was—permit us the expression—more than asleep, whether he had arrived at the state of somnambulism.

M. Dupotet, whom we have already mentioned se-

veral times, proposed, on the 14th of November 1826, to make your committee witnesses of certain experiments, in which he should reduce the question with regard to the magnetic somnambulism to an absolute certainty. He undertook, and we have his promise to this effect under his own hand, to produce at pleasure, and out of sight of those individuals whom he had placed in a state of somnambulism, convulsive motions in any part of their bodies, by merely directing his finger towards that part. These convulsions he regarded as an unequivocal sign of the existence of somnambulism. Your committee took advantage of the presence of Baptiste Chamet, already mentioned (page 223), to make experiments upon him, for the purpose of elucidating this question. Accordingly, M. Dupotet having placed this person in a state of somnambulism, directed the point of one of his fingers towards those of Chamet, or approximated them with a metallic rod : No convulsive effect was produced. A finger of the magnetizer was again directed towards those of the patient, and there was perceived, in the fore and middle fingers of both hands, a slight motion, similar to that produced by the galvanic pile. Six minutes afterwards, the finger of the magnetizer, directed towards the left wrist of the patient, impressed upon it a complete convulsive motion ; and the magnetizer then informed us, that in five minutes *he should do all that he pleased with this man.* M. Marc then, placing himself behind the patient, indi-

cated that the magnetizer should endeavour to act upon the fore-finger of the right hand : He directed his own fore-finger towards this part, and the convulsions took place in the left, and in the thigh of the same side. At a later period, the fingers were directed towards the toes, but no effect was produced. Some anterior manipulations were performed. MM. Bourdois, Guersent, and Gueneau de Massy, successively directed their fingers towards those of the patient, which became contracted at their approach. At a later period, motions were perceived in the left hand, towards which, however, no finger was directed. Finally, we suspended all our experiments, in order to ascertain whether the convulsive motions did not take place when the patient was not magnetised ; and these motions were renewed, but more feebly. Hence your committee concluded, that the approximation of the fingers of the magnetizer was not necessary for the production of the convulsions, although M. Dupotet added, that, when they have once commenced, they may be reproduced of themselves.

Mademoiselle Lemaitre, of whom we have already spoken (page 211), when treating of the influence of the imagination in producing the magnetic phenomena, also presented an instance of this convulsive mobility, but sometimes these motions, pretty similar in quickness to those experienced from the approach of an electric spark, took place in a particular part, in consequence of the approximation of the fingers, sometimes, also, in-

dependently of this condition. Sometimes, too, we perceived them take place at a greater or less distance of time after the attempt made to excite them. Sometimes this phenomenon took place several times at one sitting; sometimes it did not once make its appearance; and sometimes the approximation of the fingers towards one part was followed by convulsions in another.

M. Chales, French Consul at Odessa, furnished us with another example of this phenomenon. M. Dupotet magnetised him in our presence, on the 17th of November 1826. He directed his finger towards the left ear, and immediately we perceived a motion in the hair behind the ear, which was ascribed to a contraction of the muscles of that region. The manipulations were renewed with a single hand, without directing the finger towards the ear, and we perceived in the ear a general and lively ascending motion. The finger was then directed towards the same ear, and no effect was produced.

It was principally in the case of M. Petit, tutor (*instituteur*) at Athis, aged 32 years, that the convulsive motions were developed with the greatest precision by approaching the fingers of the magnetizer. M. Dupotet presented him to the committee upon the 10th of August 1826, informing them that this M. Petit was very susceptible of somnambulism, and that, when in this state, he, M. Dupotet, could at pleasure, and without speaking, by the mere approximation of his fingers,

produce visible convulsive motions in those parts which the committee should point out by writing. The patient was very speedily set asleep, and then the committee, in order to prevent all suspicion of collusion, handed over to M. Dupotet a note written at the moment in silence, in which they pointed out the particular parts which they wished to be convulsed. Provided with these instructions, he first directed his hand towards the left wrist, which became convulsed ; he then placed himself behind the patient, and directed his finger first towards the left thigh, then towards the left elbow, and, at last, towards the head. These three parts almost immediately became convulsed. M. Dupotet directed his left leg towards that of the patient, which became so much agitated that he was upon the point of falling. M. Dupotet then directed his foot towards M. Petit's right elbow, which became agitated ; he afterwards carried his foot towards the elbow and the left hand, and very strong convulsive motions were developed in the whole upper part of the body. One of the committee, M. Marc, in order still farther to prevent every kind of deception, put a bandage upon the eyes of the patient, and the same experiments were repeated with a slight difference in the result. After an instantaneous mimic signal from one or two of us, M. Dupotet directed his foot towards the left hand : at its approach both hands became agitated. We desired that the action should be carried at once to the two in-

ferior members. At first, the fingers were approximated without any result. Soon afterwards, the somnambulist first moved his hands, then drew back, then moved his feet. A few moments later, the finger approximated to the hand, made it draw back, and produced a general agitation. MM. Thillaye and Marc directed their fingers towards several parts of the body, and excited some convulsive motions. Thus, M. Petit was always affected with these convulsive motions, upon the approximation of the fingers, whether he had or had not a bandage upon his eyes; and these motions were more decided when there was directed towards the parts subjected to experiment a piece of metal, such as a key, or the branch of a pair of spectacles. To sum up the whole, your committee, although they have witnessed several cases in which this contractile faculty has been put in play by the approximation of the fingers or pieces of metal, have need of new facts in order to enable them to appreciate this phenomenon, upon the constancy and importance of which they do not conceive themselves sufficiently informed to entitle them to pronounce a decided opinion.

Reduced, in consequence, to the necessity of relying upon our own unceasing watchfulness, we pursued our researches, and multiplied our observations, with redoubled care, attention, and distrust.

Perhaps, gentlemen, you may remember the experi-

ments which were made in 1820, at the *Hotel-Dieu*, in presence of a great number of physicians, some of whom are members of this Academy, and under the eyes of the Reporter, who alone conceived the plan of them, directed the details, and consigned them, minute after minute, to a *procès-verbal*, which was subscribed by each of the assistants. Perhaps we should have abstained from alluding to them upon the present occasion, had it not been for a particular circumstance, which renders it imperative upon us to break silence. You may recollect that, in the midst of the discussions which were excited in the bosom of the Academy, in consequence of the proposal to submit Animal Magnetism to a new investigation, a member, who, however, did not deny the reality of the magnetic phenomena, affirmed that, while the magnetizers proclaimed the cure of Mademoiselle Sanson, she requested of him to be again admitted into the *Hotel-Dieu*, where, he added, she died in consequence of an organic lesion which the physicians deemed incurable.

Nevertheless, this same Mademoiselle Sanson reappeared, six years after her pretended death, and your committee, assembled on the 29th of December 1826, for the purpose of making experiments upon her, were desirous of ascertaining, first of all, whether the individual presented to them by M. Dupotet, whose good faith was, moreover, perfectly well known to them, was the identical person, who, nine years before, had been

magnetized at the *Hotel-Dieu*. MM. Bricheteau and Patissier, who had been present at these first experiments, had the goodness to comply with the request of the committee, and, conjointly with the Reporter, they certified by a writing which they signed, that it was the same person who had been the subject of the experiments made in the *Hotel-Dieu* in 1820, and that they perceived no other change in her than that which indicated a sensible amelioration of her health.

The identity having been thus verified, Mademoiselle Sanson was magnetised by M. Dupotet in presence of the committee. The manipulations had scarcely commenced, when Mademoiselle Sanson became restless, rubbed her eyes, expressed impatience, complained, coughed with a hoarse voice, which recalled to the recollection of MM. Bricheteau, Patissier, and the Reporter, the same sound of voice which had struck them in 1820, and which then, as upon the present occasion, pointed out to them the commencement of the magnetic action. Soon after, she stamped with her foot, supported her head upon her right hand, which rested upon the elbow-chair, and appeared to fall asleep. We raised her eyelid, and perceived, as in 1820, the ball of the eye turned convulsively upwards. Several questions were addressed to her, and remained unanswered; then, when new ones were put, she exhibited signs of impatience, and said with ill humour that we ought not to annoy her. At length, without having intimated his

intention to any one, the Reporter threw down upon the floor a table and a billet of wood which he had placed upon it. Some of those present uttered a cry of terror,—Mademoiselle Sanson alone heard nothing, made no sort of motion, and continued to sleep after as before the sudden and violent noise. She was awakened four minutes afterwards, by rubbing her eyes in a circular manner with the thumbs. The same billet was then suddenly thrown upon the floor; the noise made her start now that she was awake, and she complained bitterly of the fright that had been given her, although six minutes before she had been insensible to a much greater noise.

You have all likewise heard of a case, which, at the time, attracted the attention of the Surgical Section, and which was communicated to it at the meeting of the 16th of April 1829, by M. Jules Cloquet. Your committee have thought it their duty to notice it here, as affording one of the most unequivocal proofs of the power of the magnetic sleep. The case is that of a lady, P_____, aged sixty-four years, residing in the street of St Denis, No. 151, who consulted M. Cloquet, upon the 8th of April 1829, on account of an ulcerated cancer on the right breast, of several years' standing, which was combined with a considerable swelling (*engorgement*) of the corresponding axillary ganglions. M. Chapelain, the ordinary physician attending this lady, who had magnetized her for some months, with the intention,

as he said, of dissolving the swelling (*engorgement*) of the breast, had obtained no other result than that of producing a most profound sleep, during which all sensibility appeared to be annihilated, while the ideas retained all their clearness. He proposed to M. Cloquet to operate upon her while she was plunged in this magnetic sleep. The latter having deemed the operation indispensable, consented. The two previous evenings, this lady was magnetized several times by M. Chapelain, who, in her somnambulism, disposed her to submit to the operation,—who had even led her to converse about it with calmness, although, when awake, she rejected the idea with horror.

Upon the day fixed on for the operation, M. Cloquet arriving at half-past ten in the morning, found the patient dressed and seated on an elbow-chair, in the attitude of a person enjoying a quiet natural sleep. She had returned about an hour before from mass, which she attended regularly at the same hour. Since her return, M. Chapelain had placed her in a state of magnetic sleep, and she talked with great calmness of the operation to which she was about to submit. Every thing having been arranged for the operation, she undressed herself, and sat down upon a chair.

M. Chapelain supported the right arm, the left was permitted to hang down at the side of the body. M. Pailloux, house pupil of the Hospital of St Louis, was employed to present the instruments, and to make the ligatures. A first incision, commencing at the arm-pit

was continued beyond the tumour as far as the internal surface of the breast. The second commenced at the same point, separated the tumour from beneath, and was continued until it met the first. The swelled ganglions (*ganglions engorgés*) were dissected with precaution on account of their vicinity to the axillary artery, and the tumour was extirpated. The operation lasted from ten to twelve minutes.

During all this time, the patient continued to converse quietly with the operator, and did not exhibit the slightest sign of sensibility. There was no motion of the limbs or of the features, no change in the respiration nor in the voice, no emotion even in the pulse. The patient continued in the same state of automatic indifference and impassibility, in which she was some minutes before the operation. There was no occasion to hold, but only to support her. A ligature was applied to the lateral thoracic artery, which was open during the extraction of the ganglions. The wound was united by means of adhesive plaster, and dressed. The patient was put to bed while still in a state of somnambulism, in which she was left for forty-eight hours. An hour after the operation, there appeared a slight hemorrhage, which was attended with no consequence. The first dressing was taken off on the following Tuesday, the 14th,—the wound was cleaned and dressed anew—the patient exhibited no sensibility nor pain—the pulse preserved its usual rate.

After this dressing, M. Chapelain awakened the patient, whose somnambulic sleep had continued from an hour previous to the operation, that is to say, for two days. This lady did not appear to have any idea, any feeling, of what had passed in the interval; but upon being informed of the operation, and seeing her children around her, she experienced a very lively emotion, which the magnetizer checked by immediately setting her asleep.

In these two cases, your committee perceived the most evident proof of the annihilation of sensibility during somnambulism; and we declare, that, although we did not witness the last, we yet find it impressed with such a character of truth; it has been attested and repeated to us by so good an observer, who had communicated it to the Surgical Section, that we have no fear in presenting it to you as the most incontestable evidence of that state of torpor and insensibility which is produced by Magnetism.*

* In M. Chardel's *Essai de Psychologie Physiologique*, to which the reader is referred, there will be found a number of additional curious particulars respecting this very extraordinary case. In a note (p. 261), M. Chardel also gives a short account of another case, in which a surgical operation was performed upon a somnambulist, in a similar state of insensibility.

John _____, farmer, had an abscess in the internal and upper part of the thigh; the operation required prudence, as the crural artery crossed the tumour. Count B_____ placed the patient in a state of magnetic somnambulism, and produced complete insensibility. The operation was performed in the house of the Juge de Paix of the Canton of Condom, department of Gers, in the presence of several distin-

In the midst of the experiments in which your committee sought to appreciate the faculty of setting in motion, without contact, the contractility of the muscles of M. Petit of Athis (page 146), other attempts were made upon him with the view of observing the lucidity (*clairvoyance*), that is, the power of seeing through the closed eyelids, which he was said to possess during somnambulism.

The magnetizer informed us that his somnambulist would recognise, among twelve pieces of coin, that which he M. Dupotet had held in his hand. The reporter placed there a crown of five francs, of the coinage of 1813, and afterwards mixed it with twelve others, which he arranged in a circle upon a table. M. Petit pointed out one of these pieces, but it was of the coinage of 1812. Afterwards, we presented to him a watch, the hands of which we had deranged, in order that they might not point out the actual hour of the day; and twice, consecutively, M. Petit was mistaken in attempting to point out their direction. An attempt was made to explain these mistakes, by telling us that M. Petit had lost some of his *lucidity* since he had been less frequently magnetized; however, at the same sitting, the reporter engaged with him in a game of piquet, and frequently attempted to deceive him by announcing one card or one colour instead of another;

guished persons, by Dr Lar..., and is reported in the Journal of Toulouse.—*Note by the Translator.*

but the bad faith of the reporter did not prevent M. Petit from playing correctly, or from ascertaining the colour of his adversary's point. We should add, that each time that we interposed a body—a sheet of paper or pasteboard—between the eyes and the object to be perceived, M. Petit could distinguish nothing.

If these experiments had been the only ones in which we had sought to recognise the faculty of lucidity (*clairvoyance*), we should have been led to conclude that this somnambulist did not possess it. But this faculty appeared in all its clearness in the following experiment; and upon this occasion, the success entirely justified the expectations held out to us by M. Dupotet.

M. Petit was magnetised on the 15th of March 1826, at half-past eight in the evening, and set asleep in about one minute. The president of the committee, M. Bourdois, ascertained that the number of pulsations, since he was set asleep, diminished at the rate of 22 in a minute, and that there was even some irregularity in the pulse. M. Dupotet, after having put a bandage upon the eyes of the somnambulist, repeatedly directed towards him the points of his fingers, at the distance of about two feet. Immediately a violent contraction was perceived in the hands and arms towards which the action was directed. M. Dupotet having, in a similar manner, approximated his feet to those of M. Petit, always with-

out contact, the latter quickly withdrew his. He complained of great pain and a burning heat in the limb, towards which the action had been directed. M. Bourdois endeavoured to produce the same effects; and he succeeded, but less promptly, and in a more feeble degree.

This point being established, we proceeded to ascertain the lucidity (*clairvoyance*) of the somnambulist. He having declared that he could not see with the bandage, it was taken off; but then we determined to assure ourselves that the eyelids were exactly closed. For this purpose, a candle was almost constantly held, during the experiments, before the eyes of M. Petit, at a distance of one or two inches; and several persons had their eyes continually fixed upon him. None of us could perceive the slightest separation of the eyelids. Mr Ribes, indeed, remarked that their edges were superimposed so that the eye-lashes crossed each other.

We also examined the state of the eyes, which were forcibly opened without awakening the somnambulist; and we remarked that the pupil was turned downwards, and directed towards the great angle of the eye.

After these preliminary observations, we proceeded to verify the phenomena of vision with the eyes closed.

Mr Ribes, member of the Academy, presented a catalogue which he took from his pocket. The somnambulist, after some efforts which seemed to fatigue him,

read very distinctly the words, *Lavater*. *Il est bien difficile de connaître les hommes.* The last words were printed in very small characters. A passport was placed under his eyes ; he recognised it, and called it a *passé-homme*. Some moments afterwards, a *port d'armes* was substituted, which we all know to be in almost all respects similar to a passport, and the blank side of it was presented to him. M. Petit, at first, could only recognise that it was of a particular figure, and very like the former. A few moments afterwards, he told us what it was, and read distinctly the words, *De par le roi*, and on the left, *port d'armes*. Again, he was shewn an open letter ; he declared that he could not read it, as he did not understand English. In fact it was an English letter.

M. Bourdois took from his pocket a snuff-box, upon which there was a cameo set in gold. At first the somnambulist could not see it distinctly ; he said that the gold setting dazzled him. When the setting was covered with the fingers, he said that he saw the emblem of fidelity. When pressed to tell what this emblem was, he added, " I see a dog, he is as if on his hind legs before an altar." This, in fact, was what was represented.

A closed letter was presented to him. He could not discover any of its contents. He only followed the direction of the lines with his finger ; but he easily read the address, although it contained a pretty difficult name : To M. de Rockenstroh.

All these experiments were exceedingly fatiguing to M. Petit. He was allowed to repose for an instant. Then, as he was very fond of play, a game at cards was proposed for his relaxation. As much as the experiments of pure curiosity seemed to annoy him, with so much the more ease and dexterity did he perform whatever gave him pleasure, and this he entered into of his own accord.

One of the gentlemen present, M. Raynal, formerly inspector of the university, played a game at piquet with M. Petit and lost it. The latter handled his cards with the greatest dexterity, and without making any mistake. We attempted several times in vain to set him at fault, by taking away or changing some of his cards. He counted with surprising facility the points marked upon his adversary's marking card.

During all this time, we never ceased to examine the eyes, and to hold a candle near them; and we always found them exactly closed. We remarked, however, that the ball of the eye seemed to move under the eyelids, and to follow the different motions of the hands. Finally, M. Bourdois declared, that, according to all human probability, and as far as it was possible to judge by the senses, the eyelids were exactly closed.

While M. Petit was engaged in a second game at piquet, M. Dupotet, upon the suggestion of M. Ribes, directed his hand, from behind, towards the patient's elbow, and the contraction previously observed again took place. Afterwards, upon the suggestion of M.

Boardois, he magnetised him from behind, and always at the distance of more than a foot, with the intention of awakening him. The keenness with which the somnambulist engaged in play resisted this action, which, without awakening, seemed to annoy and disconcert him. He carried his hand several times to the back of his head, as if he suffered pain in that part. At length he fell into a state of somnolency, which seemed like a slight natural sleep; and some one having spoken to him when in this state, he awoke as if with a start. A few moments afterwards, M. Dupotet, always placed near him, but at a certain distance, set him again asleep, and we recommenced our experiments. M. Dupotet being desirous that not the slightest shadow of doubt should remain with regard to the nature of the physical influence exerted at will upon the somnambulist, proposed to place upon M. Petit as many bandages as we might think proper, and to operate upon him while in this state. In fact, we covered his face down to the nostrils with several neckcloths; we stopped up with gloves the cavity formed by the prominence of the nose, and we covered the whole with a black handkerchief, which descended, in the form of a veil, as far as the neck. The attempts to excite the magnetic susceptibility, by operating at a distance in every way, were then renewed; and, invariably, the same motions were perceived in the parts towards which the hand or the foot were directed.

After these new experiments, M. Dupotet having taken the bandages off M. Petit, played a game at ~~coups~~ with him, in order to divert him. He played with the same facility as before, and continued successful. He became so eager at his game, that he remained insensible to the influence of M. Bourdois, who, while he was engaged in play, vainly attempted to operate upon him from behind, and to make him perform a command intimated merely by the will.

After his game, the somnambulist rose, walked across the room, putting aside the chairs, which he found in his way, and went to sit down apart, in order to take some repose at a distance from the inquisitive experimentalists, who had fatigued him. There M. Dupotet awakened him at the distance of several feet; but it seemed that he was not completely awake, for some moments afterwards he again fell asleep, and it was necessary to make fresh efforts, in order to rouse him effectually.

When awake, he said he had no recollection of any thing that took place during his sleep.

It is most certain, that if, as M. Bourdois has recorded apart in the *procès-verbal* of this sitting, "the constant immobility of the eyelids and their edges superimposed so as that the eye-lashes appeared to cross each other, are sufficient guarantees of the lucidity (*clairvoyance*) of this somnambulist, it was impossible to withhold, if not our belief, at least our astonishment,

at all that took place at this sitting, and not to be desirous of witnessing new experiments, in order to enable us to fix our opinion in regard to the existence and the value of Animal Magnetism."

The wish expressed upon this subject by our president was not long of being gratified by three somnambulists, who, besides this *clairvoyance*, observed in the preceding case, presented proofs of an intuition, and of a prevision very remarkable, whether for themselves or for others.

Here the sphere seems to enlarge; we no longer want to satisfy a simple curiosity,—no longer endeavour to ascertain whether or not there exists any criterion which may enable us to decide whether somnambulism has or has not taken place,—whether a somnambulist can read with his eyes closed,—whether, during his sleep, he can form combinations at play more or less complicated,—curious and interesting questions, the solution of which, especially of the last, is, considered as a mere spectacle, a most extraordinary phenomenon; but which, in point of real interest, and in the hope of benefiting the science of medicine, are infinitely beneath those with which your committee are now about to make you acquainted.

There is not one amongst you, gentlemen, who, amidst all that he has been told about magnetism, has not heard of that faculty which certain somnambulists have, not only of discovering the species of disease

with which they themselves are affected—the endurance and the issue of these diseases; but even the species, the endurance and the issue of the diseases of others with whom they are placed *en rapport*. The three following cases have appeared to us so important, that we have thought it our duty to make you acquainted with them at large, as affording most remarkable examples of this intuition and of this prevision; at the same time, you will find in them a combination of various phenomena which were not observed in the other magnetised persons.

Paul Villagrand, student of law, born at Magnac Laval (Upper Vienne), on the 18th of May 1803, suffered a stroke of apoplexy on the 25th of December 1825, which was followed by a paralysis of the whole left side of the body. After seventeen months of different modes of treatment, by acupuncture, a seton in the nape of the neck, twelve applications of *moxa* along the vertebral column—modes of treatment which he followed at home, at the *Maison de Santé*, and at the *Hospice de Perfectionnement*, and in the course of which he had two fresh attacks—he was admitted into the *Hopital de la Charité*, on the 8th of April 1827. Although he had experienced perceptible relief from the means employed before he entered this hospital, he still walked with crutches, being unable to support himself upon the left foot. The arm of the same side, indeed, could perform several motions; but Paul could not lift

it to his head. He scarcely saw with his right eye, and was very hard of hearing with both ears. In this state he was entrusted to the care of our colleague, M. Fouquier, who, besides the very evident paralysis, discovered in him the symptoms of hypertrophy of the heart.

During five months, he administered to him the alcoholic extract of *nux vomica*, bled him from time to time, purged him, and applied blisters. The left arm recovered a little strength ; the headaches, to which he was subject, disappeared ; and his health continued stationary until the 29th of August 1827, when he was magnetised for the first time by M. Foissac, by order and under the direction of M. Fouquier. At this first sitting, he experienced a sensation of general heat, then twitchings (*soubresauts*) of the tendons. He was astonished to find himself overcome by the desire of sleeping ; he rubbed his eyes in order to get rid of it, made visible and ineffectual efforts to keep his eyelids open, and, at length, his head fell down upon his breast, and he fell asleep. From this period, his deafness and headaches disappeared. It was not until the ninth sitting that his sleep became profound ; and at the tenth, he answered, by inarticulate sounds, the questions which were addressed to him. At a later period, he announced that he could not be cured but by means of magnetism, and he prescribed for himself a continuation of the pills composed of the extract of *nux vomica*,

sinapisms, and baths of Bareges. Upon the 25th of September, your Committee repaired to the *Hopital de la Charité*, made the patient be undressed, and ascertained that the inferior left limb was manifestly thinner than the right—that the right hand closed much more strongly than the left—that the tongue, when drawn out of the mouth, was carried towards the right commissure, and that the right cheek was more convex than the left.

Paul was then magnetised, and soon placed in a state of somnambulism. He recapitulated what related to his treatment, and prescribed that, on that same day, a sinapism should be applied to each of his legs for an hour and a half; that next day he should take a bath of Bareges; and that, upon coming out of the bath, sinapisms should be again applied during twelve hours without interruption, sometimes to one place, and sometimes to another; that, upon the following day, after having taken a second bath of Bareges, blood should be drawn from his right arm to the extent of a palette and a half. Finally, he added, that, by following this treatment, he would be enabled, upon the 28th, i. e. three days afterwards, to walk without crutches on leaving the sitting, at which, he said, it would still be necessary to magnetise him. The treatment which he had prescribed was followed; and upon the day named, the 28th of September, the committee repaired to the *Hopital de la Charité*. Paul came, supported on his

crutches, into the consulting-room, where he was magnetised as usual, and placed in a state of somnambulism. In this state, he assured us that he should return to bed without the use of his crutches, without support. Upon awaking, he asked for his crutches,---we told him that he had no longer any need of them. In fact, he rose, supported himself on the paralysed leg, passed through the crowd who followed him, descended the step of the *chambre d'expériences*, crossed the second court of *la Charité*, ascended two steps; and when he arrived at the bottom of the stair, he sat down. After resting two minutes, he ascended, with the assistance of an arm and the balustrade, the twenty-four steps of the stair which led to the room where he slept, went to bed without support, sat down again for a moment, and then took another walk in the room, to the great astonishment of all the other patients, who, until then, had seen him constantly confined to bed. From this day, Paul never resumed his crutches.

Your committee assembled again, on the 11th of October following, at the *Hôpital de la Charité*. Paul was magnetised, and he announced to us that he should be completely cured at the end of the year, if a caton were placed two inches below the region of the heart. At this sitting, he was repeatedly pinched, pricked with a pin, to the depth of a line, in the eyebrow and in the wrist, without producing any symptom of sensibility.

Upon the 16th of October, M. Fouquier received a

letter from the *Conseil General des Hospices*, requesting him to suspend the experiments which he had commenced at the *Hopital de la Charité*. We were obliged, therefore, to interrupt this magnetic treatment, the efficacy of which our paralytic patient said he could not sufficiently praise. M. Foissac procured his dismissal from the hospital, and placed him in the *Rue des petits Augustins*, No. 18, in a private apartment, where he continued the treatment.

Upon the 29th of the same month, your committee met at the apartment of the patient, in order to examine into the progress of his cure ; but before he was magnetised, they ascertained that he walked without crutches, and more firmly, to all appearance, than at the preceding sitting. We then made him try his strength upon the *dynamometer*. When pressed by the right hand, the hand of the instrument indicated thirty *kilogrammes*, and by the left, twelve. The two hands united caused it to mount to thirty-one. He was magnetised. In four minutes somnambulism was manifested, and Paul assured us that he should be completely cured upon the 1st of January. We tried his strength : the right hand carried the hand of the *dynamometer* to twenty-nine *kilogrammes* (one less than before his sleep), the left hand (the paralysed one) to twenty-six (fourteen more than before his sleep), and the two hands united, to forty-five (fourteen more than before).

While still in the state of somnambulism, he rose to

walk, and got over the ground cleverly. He hopped upon the left foot. He knelt down on the right knee; then rose up, supporting himself with the left hand upon one of the assistants, and resting the whole weight of his body upon the left knee. He took and lifted up M. Thillaye, turned him round, and sat down with him on his knees. He drew the *dynamometer* with all his strength, and made the scale of traction (*echelle de traction*) mount to sixteen *myriagrammes*. At our request that he would go down stairs, he rose quickly from his elbow-chair, took the arm of M. Foissac, which he quitted at the door, descended and ascended the stairs, two or three at a time, with a convulsive rapidity, which, however, he moderated when he was bid to take them one by one. As soon as he awoke, he lost this astonishing augmentation of strength; in fact, the *dynamometer* then indicated no more than $3\frac{3}{4}$ *myriagrammes*, i. e. $12\frac{1}{4}$ less than when asleep. His walk was slow, but sure; he could not sustain the weight of his body on the left leg (the paralysed one), and he made an ineffectual attempt to lift up M. Foissac.

We ought to remark, gentlemen, that, a few days before this last experiment, the patient had lost two pounds and a half of blood, that he had still two blisters on his legs, a seton in the nape of the neck, and another on the breast; consequently, you will perceive along with us what a prodigious increase of strength Magnetism had produced in the diseased organs, that

of the sound organs remaining the same, seeing that, during the whole time the somnambulism continued, the total strength of the body was more than quadrupled.

After this, Paul renounced all medical treatment, wishing to be magnetised only; and, towards the end of the year, as he expressed a wish to be placed and kept in a state of somnambulism, in order to complete his cure by the 1st of January, he was magnetised upon the 25th of December, and continued in a state of somnambulism until the 1st of January.

During this period, he was awakened about twelve hours, at unequal intervals; and in these short moments he was made to believe that he had been only a few hours asleep. During the whole of his sleep, his digestive functions were performed with an increased activity.

He had been asleep three days, when, in company with M. Foissac, he set out on foot, on the 28th of December, from the Rue Mondovi, and went in search of M. Fouquier at the *Hopital de la Charité*, where he arrived at nine o'clock. He recognised there the patients near whom he had slept before his discharge, the pupils who were upon duty in the room, and he read with his eyes closed, a finger having been applied to each eyelid, some words which were presented to him by M. Fouquier. All that we had witnessed appeared to us so astonishing, that your committee, being desi-

rous of following out the history of this somnambulist to the end, again met, upon the 1st of January, in the house of M. Foissac, where we found Paul asleep since the 25th of December. Fifteen days before, he had taken out the setons in the neck and the breast, and had established, on the left arm, a cauter, which he was to continue all his life. Moreover, he declared that he was now cured, that, unless guilty of some imprudence, he should live to an advanced age, and that he should die at last of an attack of apoplexy. While still asleep, he went out of the house of M. Foissac, and walked and ran along the street with a firm and assured step. Upon his return, he carried, with the greatest facility, one of the persons present, whom he could scarcely have lifted before he was set asleep.

Upon the 12th of January, your committee met again at the house of M. Foissac, where there were present M. E. Lancase, deputy, M. De ——, *aidé-de-camp* to the king, and M. Segalas, member of the Academy. M. Foissac told us that he was going to set Paul asleep, that, in this state of somnambulism, a finger should be applied to each of his closed eyes, and that, in spite of this complete occlusion of the eyelids, he should distinguish the colour of cards, that he should read the title of a work, and even some words or lines pointed out at random in the body of the work. At the end of two minutes of magnetic manipulations, Paul fell asleep. The eyelids being kept closed, constantly and alternate-

ly by MM. Fouquier, Itard, Marc, and the Reporter, there was presented to him a pack of new cards, from which the paper covering bearing the government stamp was torn off. The cards were shuffled, and Paul easily and successively recognised the King of Spades, the Ace of Clubs, the Queen of Spades, the Nine of Clubs, the Seven of Diamonds, and Queen of Diamonds, and the Eight of Diamonds.

While his eyelids were kept closed by M. Segalas, there was presented to him a volume which the Reporter had brought along with him. He read upon the title-page : *Histoire de France*.* He could not read the two intermediate lines, and upon the fifth he read only the name, Anquetil, which is preceded by the preposition *par*. The book was opened at the 89th page, and he read in the first line—*le nombre de ses*—he passed over the word *troupes*, and continued : *Au moment où on le croyait occupé des plaisirs du carnaval*. He also read the running-title *Louis*, but could not read the Roman cypher which follows it. A piece of paper was presented to him, upon which were written the words, *Agglutination* and *Magnetisme Animal*. He spelt the first, and pronounced the two others. Finally, the *procès-verbal* of this sitting was presented to him, and

* *Histoire de France depuis les Gaulois jusques à la mort de Louis XVI.* par Anquetil. 13 vols. 8vo. Paris, 1817.

The passage read by Paul is to be found upon the 89th page of the 7th volume.

he read very distinctly the date, and some words which were more legibly written than the others. In all these experiments, the fingers were applied to the whole of the commissure of both eyes, by pressing down the upper upon the under eyelid, and we remarked that the ball of the eye was in a constant rotatory motion, and seemed directed towards the object presented to his vision.

Upon the 2d of February, Paul was placed in a state of somnambulism in the house of Messrs Scribe and Bremard, merchants, Rue St Honoré. The Reporter of the committee was the only member present at this experiment. The eyelids were closed as before, and Paul read, in the work entitled *The Thousand and One Nights*, the title-page, the word *Preface*, and the first line of the preface, with the exception of the word *peu*. There was also presented to him a volume entitled, *Lettres de deux amies, par Madame Campan*. He distinguished on a print the figure of Napoleon; he pointed out the boots, and said that he also saw two female figures. He then read currently the four first lines of the third page, with the exception of the word *raviver*. Finally, he recognised, without touching them, four cards, which were successively presented to him two and two,—these were the King of Spades and the Eight of Hearts, the King and Queen of Clubs.

At another sitting, which took place upon the 13th

of March following, Paul attempted in vain to distinguish different cards which were applied to the pit of the stomach ; but he read, with his eyes still closed, in a book opened at random, and, at this time, it was M. Jules Cloquet who kept his eyes shut. The Reporter also wrote upon a slip of paper the words, *Maximilien Robespierre*, which he read equally well.

The conclusions to be drawn from this long and curious case are easy. They flow naturally from the simple exposition of the facts which we have reported to you, and we establish them in the following manner :—

1. A patient, whom a rational medical treatment by one of the most distinguished practitioners of the capital could not cure of a paralysis, found his cure from the administration of Magnetism, and in consequence of following exactly the treatment which he prescribed for himself when in a state of somnambulism. 2. In this state, his strength was remarkably increased. 3. He gave us the most undoubted proofs that he read with his eyes closed. 4. He predicted the period of his cure, and this cure took place.

In the following case, we shall see this foresight still more fully developed in a man belonging to the lower class, quite ignorant, and who, assuredly, had never heard of Animal Magnetism.

Pierre Cazot, aged 20 years, by trade a hatter, born of an epileptic mother, had been subject for ten years

to attacks of epilepsy, which occurred five or six times a-week, when he was admitted into the *Hôpital de la Charité*, about the beginning of the month of August 1827. He was immediately subjected to the magnetic treatment, was set asleep at the 2d sitting, and became somnambulist at the 10th, which took place upon the 19th of August. It was then, at 9 o'clock in the morning, that he announced to us that at four o'clock of the afternoon of that day, he should have an attack of epilepsy, but that it might be prevented by magnetising him a little previously. We preferred verifying the exactness of his prediction, and no precaution was taken to prevent its fulfilment. We contented ourselves with observing him, without exciting in him any suspicion. At one o'clock, he was seized with a violent headache. At three, he was obliged to go to bed, and precisely at four the fit came on. It lasted five minutes. On the second day following, Cazot being in a state of somnambulism, M. Fonquer suddenly thrust a pin of an inch in length between the fore-finger and thumb of his right hand; with the same pin he pierced the lobe of his ear; his eyelids were separated, and the conjunctiva struck several times with the head of a pin, but the patient did not manifest the slightest sign of sensibility.

Your Committee repaired to the *Hôpital de la Charité* upon the 24th of August, at nine o'clock in the morning, in order to witness the experiments which

M. Fouquier, one of its members, proposed to continue to make upon this patient.

M. Foissac, who had already magnetised him, placed himself opposite, and at the distance of six feet from Cazot ; he looked steadily at him, made use of no manipulations, preserved absolute silence, and Cazot fell asleep in eight minutes. Three times there was placed under his nose a bottle filled with ammoniac : his face coloured, his respiration increased, but he did not awake. M. Fouquier thrust into his fore-arm a pin of an inch in length. Another was introduced to the depth of two lines obliquely under the breast-bone (*sternum*) ; a third, also obliquely, at the pit of the stomach ; a fourth perpendicularly into the sole of the foot. M. Guersent pinched him in the fore-arm, so as to produce a livid spot in the skin : M. Itard leant upon his thigh with the whole weight of his body. We endeavoured to produce tickling, by bringing a small piece of paper under the nose, and conducting it along the lips, the eyelids, the eye-lashes, the neck, and the sole of the foot. Nothing could awaken him. We pressed him with questions. How long will your fits continue ? For a year.—Do you know whether they will follow close upon each other ? No.—Will you have any this month ? I shall have one on Monday the 27th, at twenty minutes from three o'clock.—Will they be severe ? Not half so severe as the one I had last.—Upon what other day will you have another at-

tack? After exhibiting some symptoms of impatience, he answered: Fifteen days hence, i.e. on the 7th of September.—At what hour? At ten minutes before six in the morning.—The indisposition of one of Cazot's children obliged him to leave the hospital this very day, the 24th of August. Maison agreed to make him return on the morning of Monday the 27th, in order that we might have an opportunity of observing the fit, which he told us was to take place that day at twenty minutes to three. The keeper having refused to admit him when he presented himself, Cazot went to the house of M. Foissac to complain of this refusal. The latter told us that he preferred putting a stop to this fit by magnetism, than to be the sole witness of it: Consequently, we could not ascertain the exactness of this prevision. But we had still to observe the fit which he had announced for the 7th of September, and M. Fouquier, who procured for Cazot admission into the hospital upon the 6th, under the pretext of subjecting him to some treatment which could not take place out of the establishment, made him be magnetised in the course of the day, by M. Foissac, who set him asleep by the mere influence of his volition, and his fixed look. In this sleep, Cazot repeated that he should have an attack next day at ten minutes to six, and that it might be prevented by magnetising him a little before.

Upon a signal agreed upon and given by M. Fou-

quier, M. Foissac, of whose presence Cazot was ignorant, awakened him, as he had set him asleep, by the mere influence of his volition, in spite of the questions we addressed to the somnambulist, the only object of which was to conceal from him the moment when he was to be awakened. In order to witness the second fit, your Committee met, at a quarter before six of the morning of the 7th of September, in the *Salle St Michel* of the *Hôpital de la Charité*. There we learnt, that, upon the previous evening, at eight o'clock, Cazot had been seized with a pain in his head, which had tormented him all night; that this pain had caused the sensation of the ringing of bells, and that he had experienced shooting pains in the ears. At ten minutes to six, we witnessed the epileptic fit, characterized by rigidity and contraction of the limbs, the repeated projection and jerking back of the head, the arched curvature of the body backwards, the convulsive closing of the eyelids, the retraction of the ball of the eye towards the upper part of the orbit, sighs, screams, insensibility to pinching, squeezing of the tongue between the teeth. All these symptoms continued five minutes, during which there were two short intervals of remission, each of some seconds; and afterwards there ensued a relaxation (*brisement*) of the limbs, and general lassitude.

Upon the 10th of September, at seven o'clock in the evening, your Committee met at the house of M. Itard,

in order to continue their experiments upon Cazot. The latter was in the parlour, where we entered into conversation with him, and kept it up until half-past seven—the period at which M. Foissac, who had arrived after us, and remained in the antechamber, which was separated from the parlour by two closed doors, and at a distance of twelve feet, began to magnetise him. Three minutes after, Cazot said : “ I believe M. Foissac is there, for I feel myself stupefied (*ébrouillé*.”) At the end of eight minutes he was set completely asleep. We questioned him, and he again assured us, that in three weeks from that day, i.e. upon the 1st of October, he should have an epileptic fit at two minutes before noon.

We made it our business to observe, with as much care as we had done upon the 7th of September, the epileptic fit which he had predicted for the 1st of October. For this purpose, the Committee repaired at half-past eleven upon that day to the house of M. Georges, hat-manufacturer, Rue de Menetries, No. 17, where Cazot resided, and followed his employment. We learnt from this M. Georges, that Cazot was a very steady workman ; that his conduct was excellent, and that, whether from simplicity of character, or from moral principle, he was incapable of lending himself to any kind of fraud ; that Cazot, feeling himself indisposed, had remained in his room, and was not at work ; that he had experienced no attack of epilepsy since

that which the Committee had witnessed at the *Hopital de la Charité*; that there was now in company with Cazot an intelligent man, whose veracity and discretion might be depended upon, and that this man had not announced to Cazot that he had predicted an attack upon this day; that it appeared certain, that, since the 10th of September, M. Foissac had communication with Cazot, but from this no inference could be drawn that he had reminded him of his prediction; on the contrary, M. Foissac appeared to attach very great importance to its being concealed from Cazot. M. Georges, at five minutes before noon, went up to a room situated under that inhabited by Cazot; and a minute afterwards, he came to inform us that the fit had commenced. We all went up in haste, MM. Guersent, Thillaye, Marc, Gueneau, de Mussy, Itard, and the reporter, to the sixth story, where, upon our arrival, the watch of one of the Committee indicated a minute before noon, true time. Assembled round the bed of Cazot, we found the epileptic fit, characterized by the following symptoms:— Tetanic rigidity of the trunk and limbs, the head and sometimes the trunk bent backwards, a convulsive drawing upwards of the balls of the eyes, of which nothing was to be seen but the white, a very decided suffusion of the face and neck, contraction of the jaws, partial fibrillary convulsions in the muscles of the fore-arm and of the right arm: Soon afterwards *opisthotonus* so decided that the trunk

was bent back into the arc of a circle, the body resting only on the head and feet, which motions were terminated by an abrupt relaxation. A few moments after this attack, *i. e.* after a minute's respite, another fit came on similar to the preceding. There were inarticulate sounds, the respiration was stifled and tremulous, the larynx being rapidly depressed and elevated, and the pulse beating from 132 to 160. There was no foam at the mouth, nor contraction of the thumb towards the palm. At the end of six minutes, the fit terminated with sighs, sinking down of the limbs, opening of the eyelids, which allowed him to look upon the bystanders with an air of astonishment, and he told us that he was lame (*courtbaturé*), especially in the right arm.

Although the Committee could entertain no doubt as to the very decided effects which magnetism produced upon Cazot, even without his knowledge, and at a certain distance, we wished to have still another proof of its influence. And as it had been proved at the last sitting that M. Foissac had had communications with him, and might have reminded him of his having predicted the attack which was to take place on the 1st of October, the Committee, in making new experiments upon Cazot, wished to lead M. Foissac into an error with regard to the day which the patient should predict as that of his next attack. In this way we should prevent every species of collusion, even if it could be

supposed that a man whom we had always found to be upright and conscientious would enter into a compact with another, destitute of education and knowledge, in order to deceive us. We confess that we could never entertain an idea so injurious to the one and the other; and we must render the same justice to MM. Dupotet and Chapelain, of whom we have repeatedly had occasion to speak in this report.

Your Committee, then, met in the cabinet of M. Bourdois, upon the 6th of October at noon, at which hour Cazot arrived there with his child. Here M. Foissac had been invited to meet us at half-past twelve; he arrived unknown to Cazot, and remained in the drawing-room, without having any communication with us. A person, however, was sent by a concealed door to tell him that Cazot was seated on a sofa, about ten feet distant from a closed door, and that the Committee requested that he might be set asleep and awakened at this distance, he remaining in the cabinet, and M. Foissac in the drawing-room.

At thirty-seven minutes past twelve, while Cazot was engaged in conversation with us, and in examining the pictures which hung round the cabinet, M. Foissac commenced his magnetic operations in the next room, and we remarked, that, at the end of four minutes, Cazot winked slightly, appeared restless, and at length, in nine minutes, fell asleep. M. Guersent, who had attended him at the *Hopital des Enfants* for his epileptic

attacks, asked him if he recognised him. He answered in the affirmative. M. Itard asked him when he should have another fit. He answered that he should have one in four weeks from that day (the 3d of November), at five minutes past four in the afternoon. He was then asked when he should have another. He answered, after collecting himself, and hesitating, that it would be five weeks after the preceding, upon the 9th of December, at half-past nine in the morning.

The *procès-verbal* of this meeting having been read over in presence of M. Foissac, in order that he might sign it along with us, we wished, as we have said above, to lead him into an error; and in reading it over to him before getting it signed by the members of the Committee, the reporter read, that Cazot's first fit should take place upon Sunday the 4th of November, instead of Saturday the 3d, as predicted by the patient. He was equally deceived in regard to the second fit, and M. Foissac took a note of these false indications as if they had been correct; but some days afterwards, having placed Cazot in a state of somnambulism, as he was accustomed to do, in order to free him from his headaches, he learnt from him that the fit should take place upon the 3d, and not the 4th, and of this he informed M. Itard, believing that an error had crept into our *procès-verbal*.

In order to observe the fit of the 3d of November, the committee took the same precautions as in examin-

ing that of the 1st of October. At four o'clock in the afternoon, we repaired to the house of M. Georges, where we learnt from him, from his wife, and from one of the workmen, that Cazot had wrought, as usual, all the morning until two o'clock, and that, at dinner, he had felt a headache; that, nevertheless, he had come down for the purpose of resuming his work; but that the headache had increased, and having experienced a stupor, he had returned to his room, lain down in his bed, and fallen asleep. MM. Bourdois, Fouquier, and the reporter, then went up, preceded by M. Georges, to Cazot's room. M. Georges entered alone, and found him in a profound sleep, which he made us observe by the door upon the stair being left a-jar. M. Georges spoke loud to him, moved him, shook him by the arms, without being able to awaken him, and at six minutes past four, in the midst of these attempts to awaken him, Cazot was seized with the principal symptoms which characterise a fit of epilepsy, and in all respects similar to those which we have previously observed.

The second fit, announced at the sitting of the 6th of October to take place upon the 9th of December, i.e. two months before, occurred at a quarter from ten, instead of half-past nine (a quarter of an hour later than had been predicted), and was characterised by the same precursory phenomena, and by the same symptoms as those of the 7th of September, 1st of October, and 3d of November.

Finally, upon the 11th of February, Cazot foretold the period of another fit, which was to take place upon Sunday the 22d of April, five minutes after noon ; and this annunciation was verified, like the preceding, within about five minutes ; that is to say, the fit took place ten minutes after noon. This fit, remarkable for its violence, for the fury with which Cazot bit his hand and his fore-arm, by the abrupt and repeated starts with which he lifted himself up, lasted thirty-five minutes, when M. Foissac, who was present, magnetised him. The convulsive state soon ceased, and gave way to the magnetic somnambulism, during which Cazot rose, sat down upon a chair, and said that he was much fatigued, that he should still have two fits—one in nine weeks from to-morrow (25th of June), at three minutes past six o'clock. He did not wish to speak of the second fit, because it would be necessary for him to think of what was to happen previously—(at this moment he sent away his wife, who was present)—and he added that, about three weeks after the fit of the 25th of June, he should become insane, that his insanity should last three days, during which he should be so wicked as to fight with every body, that he should even maltreat his wife and his child, that he ought not to be left alone with them, and that he did not know but he might kill some person whom he did not name. He ought then to be bled successively in the two feet. Finally, he added : “ I shall be cured in the month of

August ; and when once cured, the disease will never attack me again under any circumstances."

It was upon the 22d of April that all these predictions were made ; and two days afterwards, the 24th, Cazot, attempting to stop a spirited horse who had taken the bit in his teeth, was thrown against the wheel of a cabriolet, which shattered the arch of the left orbit, and bruised him shockingly. He was taken to the hospital *Beargoin*, and died there upon the 15th of May. Upon opening his skull, there were found a recent inflammation of the cerebral membranes (*meningitis*), a collection of purulent matter under the integuments of the cranium, and, at the extremity of the *plexus choroides*, a substance yellow within and white on the outside, containing small *hydatides*.

In this case, we see a young man, subject during ten years to attacks of epilepsy, for which he was under medical treatment at the *Hopital des Enfans* and that of *St Louis* successively, and also exempted from military service. Magnetism acts upon him, although he is completely ignorant of what is done. There is an amelioration in the symptoms of his disease ; the fits diminish in frequency ; his oppression and headaches disappear under the influence of Magnetism ; he prescribes a mode of treatment adapted to the nature of his complaint, and from which he predicts a cure. When magnetised without his knowledge, and at a distance, he falls into somnambulism, and is withdrawn from it as

promptly as when he was magnetised near. Finally, he pointed out, with singular precision, one or two months before, the very day and hour when he was to have an access of epilepsy. However, although gifted with the faculty of foreseeing the fits which were so distant, nay, those which were never to take place, he could not foresee that, in two days, he should meet with a fatal accident.

Without attempting to reconcile all that may, at first sight, appear contradictory in such a case, the committee would request you to observe, that the prevision of Cazot related only to his fits ; that it was restricted to the consciousness of the organic modifications which were preparing, and which took place in him, as the necessary result of the internal functions ; that this prevision, although more extensive, is quite similar to that of some epileptic patients, who recognise the approach of a fit by certain precursory symptoms, such as headache, giddiness, moroseness, the *aura epileptica*. Is it surprising, then, that the somnambulists, whose sensibility, as you have seen, is extremely lively, should be capable of foreseeing their fits a long time before, in consequence of some symptoms or internal impressions, which escape the waking man ? It is in this manner, gentlemen, that we might explain the prevision attested by Aretaeus in two passages of his immortal works ; by Sauvage, who relates an instance of it, and by Cabanis. We may add, that the prevision of Cazot was

not rigorous and absolute, but conditional, inasmuch as, when predicting a fit, he announced that it would not take place provided he were magnetised, and, in reality, it did not take place ; it was altogether organic and internal. Thus we can conceive how he did not foresee an event altogether external, viz. that he should accidentally meet a restive horse, that he should have the imprudence to attempt to stop it, and that he should receive a mortal wound. He might, then, have foreseen a fit which was never to take place. It is the hand of a watch, which, in a given time, ought to traverse a certain portion of the circle of the dial-plate, and which does not describe it, because the watch happens to be broken.

In the two preceding cases, we have presented you with two very remarkable instances of *intuition*, of that faculty which is developed during somnambulism, and by virtue of which two magnetised individuals perceived the diseases with which they were affected, pointed out the treatment requisite for their cure, announcing the term, and foreseeing the crises. The case of which we are now about to present you with an analysis, awaked in us a new species of interest. Here the magnetised person, plunged into somnambulism, determines the diseases of others, with whom she is placed in magnetic connexion, describes their nature, and points out the proper remedies.

Mademoiselle Celine Sauvage was placed in a state

of somnambulism, in presence of the committee, on the 18th and 21st of April, the 17th of June, the 9th of August, the 23d of December 1826, and 13th and 17th of January, and 21st of February 1827.

In passing into the state of somnambulism, she experienced a coolness of several degrees, appreciable by the thermometer, her tongue, from being moist and flexible, became dry and wrinkled, her breath, until then sweet, became fetid and repulsive.

The sensibility was almost entirely annihilated during the continuance of her sleep, for she made six inspirations, having a bottle filled with hydrochloric acid under her nostrils, without manifesting any emotion. M. Marc pinched her wrist; a needle used in acupuncture was thrust to the depth of three lines into her left thigh; another, to the depth of two lines, into her left wrist. These two needles were united by means of a galvanic conductor; very perceptible convulsive motions were produced in the hand; and Mademoiselle Celine seemed quite unconscious of all that was done to her. She heard the voices of persons who spoke close to her and touched her; but she did not remark the noise of two plates which were broken beside her.

It was while she was sunk in this state of somnambulism, that the committee recognised in her three times the faculty of discoursing upon the diseases of other persons whom she touched, and of pointing out the appropriate remedies.

The committee found, amongst its own members, one who was willing to submit to the investigations of this somnambulist. This was M. Marc. Mademoiselle Celine was requested to examine attentively our colleague's state of health. She applied her hand to his forehead, and to the region of the heart, and in the course of three minutes, she said that the blood had a tendency to the head; that, at that moment, M. Marc had pain on the left side of this cavity; that he often felt an oppression, especially after having eaten; that he must often have a slight cough; that the lower part of the breast was gorged with blood; that something impeded the alimentary passage; that this part (pointing to the region of the xiphoid cartilage) was contracted; that to cure M. Marc, it was necessary that he should be copiously bled; that cataplasms of hemlock should be applied, and that the lower part of the breast should be rubbed with laudanum; that he should drink gummed lemonade; that he should eat little and frequently, and that he should not take exercise immediately after having made a meal.

We were anxious to learn from M. Marc whether he experienced all that this somnambulist had announced. He told us that, in reality, he felt an oppression when he walked upon leaving the table; that, as she announced, he frequently had a cough; and that, before this experiment, he had felt pain in the left side of the

head, but that he was not sensible of any impediment in the alimentary passage.

We were struck with this analogy between the feelings of M. Marc and the announcement of the somnambulist ; we noted it with care, and awaited another opportunity of procuring a new confirmation of the existence of this singular faculty. This opportunity was presented to the reporter, without his having sought it, by the mother of a young lady, whom he had attended for a very short time.

The patient was from twenty-three to twenty-five years of age, and had been afflicted, for about two years, with dropsey of the abdomen (*ascites*), accompanied with a number of obstructions, some of the size of an egg, some of the size of the fist, others as large as a child's head, which were situated principally on the left side of the belly. The belly externally was unequal and corrugated ; and these inequalities corresponded to the obstructions which had their seat within the abdomen. M. Dupuytren had already punctured this patient ten or twelve times, and had always withdrawn a large quantity of clear, limpid albumen, without smell, and without any mixture. An alleviation of the symptoms always followed this operation.

The reporter was once present at this operation, and it was easy for M. Dupuytren and him to ascertain the size and the hardness of these tumours, and, consequently, to become sensible of their inability to

cure this patient. Nevertheless, they prescribed different remedies, and they attached some importance to the putting Mademoiselle _____ upon a regimen of goat's milk, the goat having been previously subjected to mercurial frictions.

Upon the 21st of February 1827, the reporter went in search of M. Foissac and Mademoiselle Celine, and conducted them to a house in the *Rue Faubourg du Roule*, without mentioning the name, or the residence, or the nature of the disease, of the person whom he wished to submit to the examination of the somnambulist.

The patient did not appear in the room where the experiment was made until M. Foissac had set Mademoiselle Celine asleep, and then, after having placed a hand of the one in that of the other, she examined her during eight minutes, not as a physician would do, by pressing the abdomen, by percussion, by scrutinising it in every way; but merely by applying her hand repeatedly to the stomach, the heart, the back, and the head.

Being interrogated as to what she observed in Mademoiselle ___, she answered that the whole belly was diseased, that there was in it a scirrhus and a large quantity of water on the side of the spleen; that the intestines were very much puffed up; that there were pouches containing worms; that there were swellings of the size of an egg, containing a puriform matter,

and that these swellings must be painful ; that at the bottom of the stomach, there was an obstructed gland (*glande engorgée*), of the thickness of three of her fingers ; that this gland was in the interior of the stomach, and must injure the digestion ; that the disease was of old standing ; and, finally, that Mademoiselle must have headachs. She prescribed the use of a diet-drink of borage and nitrated Peruvian bark (?) (*chiena ennitrée*), five ounces of the juice of parietary taken every morning, and a very little mercury taken in milk. She added, that the milk of a goat, which had been rubbed with mercurial ointment half an hour before drawing it off, would be the most proper.* Besides, she prescribed cataplasms of flowers of elder constantly applied to the belly, frictions of this cavity with oil of laurel, or, instead of it, with the juice of this shrub combined with the oil of sweet almonds, a clyster composed of a decoction of Peruvian bark (*kina*), mixed with an emollient decoction. The diet should consist of white meats, milk and flour, and no lemon. She allowed very little wine, a little orange-flower rum, or the liqueur of spiced mint. This treatment was not

* Without attaching much importance to this singular agreement between the prescription made by the somnambulist of the milk of a goat rubbed with mercurial ointment, and the same prescription recommended to the patient by M. Dupuytren and the reporter, the committee were bound to notice this coincidence in their report. It is presented as a fact, of which the reporter guarantees the authenticity, but of which no explanation can be given.

followed ; and if it had, it could not have saved the patient. She died a year afterwards. As the body was not opened, we could not verify what had been said by the somnambulist.

Upon an occasion of great delicacy, when very able physicians, several of whom are members of the Academy, had prescribed a mercurial treatment for an obstruction (*engorgement*) of the glands of the neck, which they attributed to a syphilitic taint, the family of the patient under this treatment, alarmed at the appearance of some serious consequences, wished to have the advice of a somnambulist. The reporter was called in to assist at a consultation ; and he did not neglect to take advantage of this new opportunity of adding to what the committee had already seen. He found a young married woman, Madame La C——, having the whole right side of the neck deeply obstructed by a great congeries of glands close upon each other. One of them was opened, and emitted a yellowish purulent matter.

Mademoiselle Celine, whom M. Foissac magnetised in presence of the reporter, placed herself in connexion with this patient, and affirmed that the stomach had been attacked by a substance *like poison* ; that there was a slight inflammation of the intestines ; that, in the upper part of the neck, on the right side, there was a scrofulous complaint, which ought to have been more considerable than it was at present ; that, by following

a soothing treatment, which she prescribed, the disease would be mitigated in the course of fifteen days or three weeks. This treatment consisted of some grains of magnesia, eight leeches applied to the pit of the stomach, water-gruel, a saline cathartic every week, two clysters each day—one of a decoction of Peruvian bark (kina), and, immediately after, another of the roots of the marsh-mallow,—friction of the limbs with ether, a bath every week; food made of milk (*laitage*), light meats, and abstinence from wine. This treatment was followed for some time, and there was a perceptible amelioration of the symptoms. But the impatience of the patient, who did not think her recovery proceeding with sufficient rapidity, determined the family to call another consultation of physicians, who decided that she should again be placed under mercurial treatment. From this period, the reporter ceased to attend the patient; and he learnt that the administration of the mercury had produced very serious affections of the stomach, which terminated her existence, after two months of acute suffering. A *procès-verbal* upon opening the body, signed by MM. Fouquier, Marjolin, Cruveilier and Foisac, verified the existence of a scrofulous or tubercular obstruction of the glands of the neck, two small cavities full of *pus*, proceeding from the tubercles at the top of each of the lungs; the mucous membrane of the great *cul-de-sac* of the stomach was almost entirely destroyed. These gentlemen ascer-

tained, besides, that there was no indication of the presence of any syphilitic disease, whether old or recent.

From the preceding observations it follows, 1, That in the state of somnambulism, *Mademoiselle Celine* pointed out the diseases of three individuals, with whom she was placed in magnetic connexion. 2, That the declaration of the first, the examination which was made of the other after three punctures, and the *post mortem* examination of the third, were found to correspond with the annunciations of the somnambulist. 3, That the different modes of treatment which she prescribed do not exceed the limits of that circle of remedies with which she might have been acquainted, nor the order of the things which she might reasonably recommend ; and, 4, That she applied them with a species of discernment.

To all these facts which we have so laboriously collected, which we have observed with so much distrust and attention, which we have endeavoured to classify in such a manner as might best enable you to follow the development of the phenomena which we witnessed, which we have, above all, exerted ourselves to present to you disengaged from all those accessory circumstances which might have embarrassed or perplexed

the narrative ; we might add those which ancient, and even modern history have recorded on the subject of previsions which have frequently been realized, on the cures effectuated by the imposition of the hands, on ecstasies, on the convulsionaries, on oracles, on hallucinations ; in short, on all that, remote from those physical phenomena which may be explained upon the principle of the action of one body upon another, enters into the domain of physiology, and may be considered as an effect depending upon a moral influence not appreciable by the senses. But the committee was appointed for the purpose of investigating somnambulism, for the purpose of making experiments relative to this phenomenon, which had not been studied by the commissioners of 1784, and of reporting to you. We should, then, have exceeded the limits prescribed to our inquiries, if, in attempting to support that which we ourselves had seen by the authority of others who had observed analogous phenomena, we had swelled out our report with facts which were foreign to it. We have related with impartiality what we have seen with distrust ; we have exposed in order what we have observed in different circumstances,—what we have prosecuted with the most anxious, minute, and unremitting attention. We are conscious that the report which we present to you is the faithful exposition of all we have observed. The obstacles which we have encountered in our progress

are known to you. They are, in some measure, the cause of the delay which has taken place in presenting our report, although the materials have been for a long time in our hands. Nevertheless, we are far from wishing to excuse ourselves or to complain of this delay, since it confers upon our observations a character of maturity and of reserve, which ought to secure your confidence in the facts which we relate, divested of that prejudice and enthusiasm with which you might have reproached us, had we collected them in haste. We may add, that we are far from thinking that we have seen all; we do not, therefore, pretend to desire you to admit, as an axiom, that there is nothing positive in magnetism beyond what we have noticed in our report. Far from setting limits to this part of physiological science, we hope, on the contrary, that a new field has been opened up to it; and warranting the authenticity of our own observations, presenting them with confidence to those who, after us, may wish to engage in the investigation of magnetism, we shall only deduce from them the following

CONCLUSIONS.

The conclusions of the report are the result of the observations of which it is composed.

1. The contact of the thumbs or of the hands ; frictions, or certain gestures which are made at a small distance from the body, and are called *Passes*, are the means employed to place ourselves in magnetic connexion, or, in other words, to transmit the magnetic influence to the patient.—(Pp. 203, 204.)
2. The means which are external and visible are not always necessary, since, on many occasions, the will, the fixed look, have been found sufficient to produce the magnetic phenomena, even without the knowledge of the patient.—(Pp. 260, &c., 263, 266.)
3. Magnetism has taken effect upon persons of different sexes and ages.
4. The time required for transmitting the magnetic influence with effect, has varied from half an hour to a minute.
5. In general, magnetism does not act upon persons in a sound state of health.—(P. 205.)

6. Neither does it act upon all sick persons.—
(P. 206.)

7. Sometimes, during the process of magnetising, there are manifested insignificant and evanescent effects, which cannot be attributed to magnetism alone ; such as a slight degree of oppression, of heat or of cold (p. 209), and some other nervous phenomena, which can be explained without the intervention of a particular agent (p. 210),—upon the principle of hope or of fear, prejudice and the novelty of the treatment, the *ennui* produced by the monotony of the gestures (p. 212), the silence and repose in which the experiments are made ; finally, by the imagination, which has so much influence on some minds and on certain organizations.—(Pp. 212—215.)

8. A certain number of the effects observed appeared to us to depend upon magnetism alone, and were never produced without its application. These are well established physiological and therapeutic phenomena.—
(Pp. 216—218, 249, &c.)

9. The real effects produced by magnetism are very various. It agitates some, and soothes others. Most commonly, it occasions a momentary acceleration of the respiration and of the circulation (p. 209), fugitive fibrillary convulsive motions, resembling electric shocks

(pp. 217-231), a numbness in a greater or less degree (p. 216), heaviness, somnolency (*ibid.*), and in a small number of cases, that which the magnetizers call somnambulism.

10. The existence of an uniform character, to enable us to recognise, in every case, the reality of the state of somnambulism, has not been established.—(Pp. 228, 232-233.)

11. However, we may conclude with certainty that this state exists, when it gives rise to the development of new faculties, which have been designated by the names of *clairvoyance* (pp. 241-246, 255-258); *intuition* (p. 249); internal *prevision* (pp. 251, 259, 260); or when it produces great changes in the physical economy, such as insensibility (pp. 222, 223, 235-239, 251); a sudden and considerable increase of strength (pp. 253, 260); and when these effects cannot be referred to any other cause.—(Pp. 235, 236, 237, 238.)

12. As among the effects attributed to somnambulism there are some which may be feigned, somnambulism itself may be feigned, and furnish to quackery the means of deception.—(Pp. 225, 226, 227.)

Thus, in the observation of those phenomena which do not present themselves again but as insulated facts, it is only by means of the most attentive scrutiny, the

most rigid precautions, and numerous and varied experiments, that we can escape illusion.

13. Sleep produced with more or less promptitude, is a real, but not a constant effect of magnetism.—(P. 249.)

14. We hold it as demonstrated that it has been produced in circumstances, in which the persons magnetised could not see or were ignorant of the means employed to occasion it.—(Pp. 216, 263.)

15. When a person has once been made to fall into the magnetic sleep, it is not always necessary to have recourse to contact, in order to magnetise him anew. The look of the magnetiser, his volition alone, possess the same influence.—(P. 260.) We can not only act upon the magnetised person, but even place him in a complete state of somnambulism, and bring him out of it without his knowledge, out of his sight, at a certain distance, and with doors intervening.—(Pp. 262-264.)

16. In general, changes, more or less remarkable, are produced upon the perception and other mental faculties of those individuals who fall into somnambulism, in consequence of magnetism.

a. Some persons, amidst the noise of a confused con-

versation, hear only the voice of their magnetizer ; several answer precisely the questions he puts to them, or which are addressed to them by those individuals with whom they have been placed in magnetic connexion ; others carry on conversation with all the persons around them.

Nevertheless, it is seldom that they hear what is passing around them. During the greater part of the time, they are completely strangers to the external and unexpected noise which is made close to their ears, such as the sound of copper vessels struck briskly near them, the fall of a piece of furniture, &c.—(P. 236.)

b. The eyes are closed, the eyelids yield with difficulty to the efforts which are made to open them ; this operation, which is not without pain, shows the ball of the eye convulsed, and carried upwards, and sometimes towards the lower part of the orbit.—(P. 242.)

c. Sometimes the power of smelling appears to be annihilated. They may be made to inhale muriatic acid, or ammonia, without feeling any inconvenience, nay, without perceiving it.—(P. 222.) The contrary takes place in certain cases, and they retain the sense of smelling.

d. The greater number of the somnambulists whom we have seen, were completely insensible. We might tickle their feet, their nostrils, and the angle of the eyes, with a feather—we might pinch their skin, so as

to leave a mark, prick them with pins under the nails, &c. without producing any pain, without even their perceiving it.—(P. 261.) Finally, we saw one who was insensible to one of the most painful operations in surgery, and who did not manifest the slightest emotion in her countenance, her pulse, or her respiration.—(Pp. 237-238.)

17. Magnetism is as intense, and as speedily felt, at a distance of six feet, as of six inches; and the phenomena developed are the same in both cases.—(P. 263.)

18. The action at a distance does not appear capable of being exerted with success, excepting upon individuals who have been already magnetised.

19. We only saw one person who fell into somnambulism upon being magnetised for the first time. Sometimes somnambulism was not manifested until the 8th or 10th sitting.—(P. 249.)

20. We have invariably seen the ordinary sleep, which is the repose of the organs of sense, of the intellectual faculties, and the voluntary motions, precede and terminate the state of somnambulism.

21. While in the state of somnambulism, the pa-

tients whom we have observed, retained the use of the faculties which they possessed when awake. Even their memory appeared to be more faithful and more extensive, because they remembered every thing that passed at the time, and every time they were placed in the state of somnambulism.

22. Upon awaking, they said they had totally forgotten the circumstances which took place during the somnambulism, and never recollect them. For this fact we can have no other authority than their own declarations.

23. The muscular powers of somnambulists are sometimes benumbed and paralysed. At other times, their motions are constrained, and the somnambulists walk or totter about like drunken men, sometimes avoiding, and sometimes not avoiding, the obstacles which may happen to be in their way.—(P. 246.) There are some somnambulists who preserve entire the power of motion; there are even some who display more strength and agility than in their waking state.—(Pp. 252, 253, 255, 260.)

24. We have seen two somnambulists who distinguished, with their eyes closed, the objects which were placed before them (p. 243); they mentioned the co-

lour and the value of cards, without touching them (p. 256); they read words traced with the hand (pp. 256-257), as also some lines of books opened at random. This phenomenon took place even when the eyelids were kept exactly closed with the fingers.—(Ibid.)

25. In two somnambulists we found the faculty of foreseeing the acts of the organism more or less remote, more or less complicated. One of them announced repeatedly, several months previously, the day, the hour, the minute of the access, and of the return of epileptic fits.—(Pp. 260-261, 267.) The other announced the period of his cure.—(P. 254.) Their previsions were realized with remarkable exactness. They appeared to us to apply only to acts or injuries of their organism.

26. We found only a single somnambulist who pointed out the symptoms of the diseases of three persons with whom she was placed in magnetic connexion. We had, however, made experiments upon a considerable number.—(P. 276, &c.)

27. In order to establish, with any degree of exactness, the connexion between magnetism and therapeutics, it would be necessary to have observed its effects upon a great number of individuals, and to have made

experiments every day, for a long time, upon the same patients. As this did not take place with us, your Committee could only mention what they perceived in too small a number of cases to enable them to pronounce any judgment.

28. Some of the magnetised patients felt no benefit from the treatment. Others experienced a more or less decided relief: viz. one, the suspension of habitual pains (p. 217); another, the return of his strength; a third, the retardation for several months of his epileptic fits (*ibid.*); and a fourth the complete cure of a serious paralysis of long standing.—(P. 248; &c.)

29. Considered as a cause of certain physiological phenomena, or as a therapeutic remedy, Magnetism ought to be allowed a place within the circle of the medical sciences; and, consequently, physicians only should practise it, or superintend its use, as is the case in the northern countries.

30. Your Committee have not been able to verify, because they had no opportunity of doing so, other faculties which the magnetizers had announced as existing in somnambulists. But they have communicated in their report facts of sufficient importance to entitle them to think, that the Academy ought to encourage the investigations into the subject of Animal Magne-

tism, as a very curious branch of psychology and natural history.

Arrived at the termination of our labours, before closing this report, your Committee have asked themselves, whether, in the precautions which we have multiplied around us, in order to avoid all surprise; whether in the feeling of continual distrust with which all our proceedings were conducted; whether, in the examination of the phenomena observed, we have scrupulously fulfilled our commission. What other course could we have followed? What means more certain could we have adopted? With what distrust more decided and more discreet could we have been actuated? Our conscience, gentlemen, proudly answers, that you could expect nothing from us but what we have done. In short, have we been honest, exact and faithful observers? It is for you who have long been acquainted with us, for you who see us continually near you, whether in the intercourse of the world, or at our frequent meetings—it is for you to answer this question. Your answer, gentlemen, we expect from the long friendship of some of you, and from the esteem of all.

Indeed, we dare not flatter ourselves with the hope of making you participate entirely in our conviction of the reality of the phenomena which we have observed, and which you have neither seen, nor followed, nor

studied along with us. We do not, therefore, demand of you a blind belief of all that we have reported. We conceive that a great proportion of these facts are of a nature so extraordinary, that you cannot accord them such a credence. Perhaps we ourselves might have dared to manifest a similar incredulity, if, in changing characters, you came to announce them here to us, who, like you, at present, had neither seen, nor observed, nor studied, nor followed any thing of the kind.

We only request that you would judge us, as we should judge you—that is to say, that you be completely convinced, that neither the love of the marvellous, nor the desire of celebrity, nor any views of interest whatever, influenced us during our labours. We were animated by higher motives and more worthy of you—by the love of science, and by an anxiety to justify the expectations you had formed of our zeal, and of our devotion.

Signed by BOURDOIS DE LA MOTTE, *President* ;
FOUQUIER, GUENEAU DE MUSSY, GUERSENT, HUSSON,
ITARD, J. J. LEROUX, MARC, THILLAYE.

Note. MM. Double and Magendie did not consider themselves entitled to sign the Report, as they had not assisted in making the experiments.



No. II.

ON THE SINGULAR PHENOMENON OF THE TRANSFERENCE
 OF THE FACULTIES FROM THEIR USUAL AND APPRO-
 PRIATE ORGANS TO THE EPIGASTRIUM AND OTHER
 PARTS OF THE NERVOUS SYSTEM, WHICH HAS BEEN
 OCCASIONALLY OBSERVED TO OCCUR IN CASES OF CA-
 TALEPSY AND SOMNAMBULISM.

“ Omnis verior interpretatio Naturæ conficitur per instantias, et expe-
 rimenta idonea et apposita; ubi sensus de experimento tantum, ex-
 perimentum de Natura, et re ipsa judicat.”—BACON, *N. Organum*.

Νεῦς ἐρῆ καὶ νοῦς ακούει τὰλλα κωφὰ καὶ τυφλά.

Epicharmi.

Cernit animus, animus audit; reliqua surda et cœca sunt.

Grotii.

IN reviewing the history of knowledge, it is impos-
 sible to withhold our assent from the observation made
 by Bacon, and repeated by many of his most eminent
 disciples, that there is nothing more detrimental to the
 progress of philosophical discovery, than the formation
 of exclusive systems of science. It is, no doubt, natu-
 ral to reflecting minds, to endeavour to bring the dif-
 ferent branches of their acquirements into systematic
 arrangement; and this method, under proper regula-

tions, and with due precautions, can be productive of no harm, but, on the contrary, may even facilitate their own studies and those of others. The great danger lies—and this could be proved from the whole history of philosophy—in setting arbitrary limits to science; so that, when we happen to stumble upon any new or unusual phenomena, which appear to be irreconcileable with our preconceived opinions, instead of being induced to suspect any imperfection in our system, we feel inclined to overlook the incompatible facts, to resort to immediate and unqualified rejection, and to make every possible effort to exclude the obnoxious and unwelcome intruders. Systematic pride engenders scientific blindness.

To none of the sciences are these observations more applicable than to physiology. Almost every writer on the subject agrees in pointing out and lamenting its barrenness in respect to carefully observed facts, and the general propensity to speculate, within its territory, upon ambiguous, erroneous, or insufficient *data*. The sciences of physiology and psychology, indeed, have many acquisitions yet to make; we are still, confessedly, ignorant of many of the functions and capabilities of certain portions of the corporeal organism, as well as of the various modes in which they are liable to be affected by the powers and processes of nature. Of the basis of the mental manifestations we know little, and even that little is almost entirely hypothetical. We

have yet to learn to distinguish between the intellect and the sensibility in the human constitution, to observe their different phenomena, and, if possible, to ascertain and discriminate their respective sources. And yet, in this avowedly imperfect science, as in others, the system of exclusion has been unhappily permitted to prevail, and philosophers have exhibited a determined reluctance to admit any new facts, however well authenticated, when they appeared to militate against principles previously established upon a false or inadequate induction.

In these circumstances, at the risk of incurring the imputation of an irrational credulity, I am about to direct the attention of scientific men to certain very singular phenomena, occasionally occurring in cases of catalepsy and somnambulism, which, as it appears to me, have not, in this country at least, been hitherto sufficiently known or investigated, although they are unquestionably calculated to open up many new and most important views in physiological and psychological science, if not to operate an entire change upon the principles established in these departments of knowledge. I am aware, indeed, that the facts to be brought under notice must appear, at first sight, so very extraordinary, and so utterly unaccountable upon any known philosophical principle, that they will probably be rejected by many at once, and, without farther inquiry, as absurd and altogether incredible. Some, perhaps,

may feel disposed to class them among those deceptions which, for some selfish purpose, have been frequently practised upon the credulity of the multitude by empirics and impostors. But before adopting such a hasty conclusion, it would undoubtedly be more philosophical to consider the character and probable motives of the observers—to weigh, carefully and impartially, the evidence by which the facts in question are supported—to reflect attentively upon their connexion and analogy with each other—to ascertain the conclusions to which they naturally lead, and, if possible, the causes to which they may be rationally ascribed. Let us satisfy ourselves, in short, of the credibility of the authorities, the accuracy of the experiments, and the reality and unambiguous nature of the facts. Let us remember, too, at the same time, that it is no good ground for rejecting a fact alleged to have been observed by competent witnesses, that, in the present state of our knowledge, we cannot immediately explain its cause.

There are more things in Heaven and Earth, Horatio,
Than are dreamt of in *our* philosophy!

To be assured, upon satisfactory evidence, that a fact, however extraordinary it may appear, is true, ought to be a sufficient incentive to farther inquiry; and it is only by means of accurate experiments, and a cautious inductive investigation, that we can hope, at

length, to become acquainted with the causes of the more mysterious phenomena of nature.*

Van Helmont informs us that, at one time, he entertained an opinion, that many strong poisons might be employed with advantage as remedies, if we only knew how to regulate the doses, and to administer them at the proper time. In order to enable him to ascertain this fact, he resolved to make some experiments upon himself with the *napellus*; and, accordingly, having rudely prepared a root, he tasted it with the point of his tongue. He swallowed none of it, and spat out a good deal of saliva. At first, he felt as if his head was bound tightly with a bandage; and soon afterwards, the following symptoms occurred:—He perceived, with astonishment, that he no longer heard, thought, knew, or imagined anything by means of the cerebral organs, but that all their ordinary and peculiar functions appeared to be transferred to the *epigastrium*, or pit of the stomach. This, he says, he perceived clearly and distinctly, and he paid the greatest attention to it. His head still retained motion and feeling; but the reasoning faculty had passed to the *epigastrium*, as if his intellect had taken up its residence in that part of the corporeal organism. Struck with surprise and wonder

* “ Quicquid oritur, qualemque est, causam habeat a natura necesse est; ut etiam si praeter consuetudinem existiterit, praeter naturam tamen non possit existere. Causam igitur investigato in re nova atque admirabili, si potes; si nullam repieres, illud tamen exploratum habeto, nihil fieri potuisse sine causa, eumque terrorem, quem tibi rei novitas attulerit, ratione naturae depellito.”—CICERO, *De Divinatione*.

at this unusual phenomenon, he studied himself carefully, observed all that he experienced, examined all his ideas, and felt that, during the whole continuance of this extraordinary state, his intellect, thus apparently transferred, possessed more than its usual energy and acuteness. This state lasted two hours, after which he experienced two attacks of *vertigo*. During the first, he felt that a new change was going on within him; and after the second, he found himself in his ordinary state. Van Helmont adds, that he afterwards repeatedly tried the same experiment with the *napellus*, but that he never succeeded in obtaining the same result.*

This case of Van Helmont may be considered by some as little more than a common instance of delirium; and had it stood alone, it would scarcely have deserved any particular notice. It appears to me, however, to present some features analogous to those which have been observed to occur in other cases, to be afterwards noticed, in which the phenomena were, with some variations, more decidedly developed; and I have, therefore, thought proper to refer to it at the outset, as probably belonging to the same class, although exhibiting only the incipient stage of that very singular organic state, of which I have undertaken to demonstrate the occasional existence.†

* Van Helmont, *Demens idea*, sect. 11, *et seq.*

† I am doubtful whether I ought to include under this description, that species of ecstatic delirium produced by the respiration of the ni-

These curious observations of Van Helmont do not appear to have attracted any attention, or given rise to any experimental investigation, at the time. They either passed entirely unnoticed, or seem to have been considered by the learned as a merely fanciful conceit of this extraordinary and eccentric genius.

About a century and a half after the time of Van Helmont, however, the singular phenomena he observed seemed to derive a decisive confirmation, while others of a still more surprising character were elicited, by the following experiments which were made in France.

M. Petetin, an eminent physician, and Honorary and Perpetual President of the Medical Society of Lyons, made a variety of experiments, with a view to verify this fact of the transference of the faculties to the epi-

trous oxide gas. Sir Humphry Davy has given the following account of his sensations, while under the influence of this intoxicating fluid :

" By degrees, as the pleasurable sensations increased, I lost all connexion with external things; trains of vivid visible images rapidly passed through my mind, and were connected with words in such a manner, as to produce perceptions perfectly novel. I existed in a world of newly modified ideas. I theorized; I imagined that I made discoveries. When I was awakened from this semi-delirious trance, my emotions were enthusiastic and sublime; and for a minute I walked round the room perfectly regardless of what was said to me. As I recovered my former state of mind, I felt an inclination to communicate the discoveries I made during the experiment. I endeavoured to recal the ideas; they were feeble and indistinct; one collection of terms, however, presented itself; and with the most intense belief and prophetic manner, I exclaimed, Nothing exists but thoughts! the universe is composed of impressions, ideas, pleasures, and pains!"—*Researches, &c.* London, 1800.

gastric region. These experiments arose from an accident. He had a cataleptic patient, who appeared to be, for a long time, in a state of absolute insensibility. No stimulant had any effect upon her; her eyes and ears had entirely lost the power of receiving sensations. M. Petetin, however, was greatly astonished by the accidental discovery, that she heard him perfectly when he spoke upon her stomach. Having satisfied himself of this fact by repeated trials, he afterwards perceived that the case was the same in regard to the senses of sight and smell. The cataleptic patient read with the stomach, even through an intervening opaque body. At last, he found that it was not necessary for him to speak immediately upon the stomach; but that it was quite sufficient to speak at the extremity of a conductor, of which the other extremity rested upon the stomach of the patient.*

At the period when these experiments and discoveries were made, the doctrines of *Animal Magnetism* had begun to excite considerable sensation, in consequence of the exertions of Mesmer and his followers. M. Petetin, however, was by no means an advocate for the Mesmerian system, of which, at that time, he does not appear to have had any experimental knowledge. On the contrary, his opinion with regard to that doctrine seems to have coincided pretty nearly with that

* *Vide Mémoire sur la découverte des phénomènes que présentent la catalepsie et le somnambulisme, &c. Par M. Petetin, &c. 1787.*

contained in the report of the first French Commissioners. The magnetic crises he considered as very dangerous, and ascribed them principally to the influence of the imagination. He endeavoured to account for the singular phenomena evolved by his own experiments, upon a peculiar theory of animal electricity, which, at a subsequent period, was sufficiently refuted by M. Lullier Winslow and others,* and of which, therefore, it appears unnecessary to take any more particular notice.

Some years after the publication of the memoir, of which some account has just been given, M. Petetin found other cataleptic and somnambulic patients, who exhibited precisely the same phenomena as the former, with this difference, that, in some of the cases, the faculties were found to be transferred, not only to the epigastrium, but also to the extremities of the fingers and toes.

The facts, indeed, which were brought to light in the course of these experiments, are of a nature so very extraordinary and surprising, that we should hesitate to admit them as well observed phenomena, without the most clear, unsuspicuous and incontrovertible evidence of credible individuals, well qualified, in every respect, for conducting the investigation. Fortunately, in the present case, we have not only the advan-

* *Vide* M. Corvisart's Journal de Medecine, vol. 18th, for October 1809.

tage of capable and attentive observers, but also the concurrent testimony borne by a great variety of other instances in which the same appearances were manifested.

The experiments were tried by M. Petetin upon *eight* different patients, all of whom exhibited the same phenomenon of the transference of the faculties to the *epigastrium*, and to the extremities of the fingers and toes; with the addition, as in the case of Van Helmont, of a prodigious development of the intellectual powers, and a presentiment or foresight of their future diseased symptoms.

The experiments were conducted in the following manner :

M. Petetin secretly placed pieces of cake, biscuit, tarts, &c. upon the stomach of one of these patients, which was immediately followed by the taste of the particular article in the mouth. When the substance was enveloped in silk stuff, no sensation was felt by the patient; but the taste was immediately perceived on removing the covering. An egg was covered over with varnish, and the patient felt no taste until the varnish was removed. One of the patients distinguished a letter addressed to her, which was folded four times, inclosed in a semi-transparent box, and held in M. Petetin's hand upon her stomach.*

* Plutarch relates, that a certain governor of Cilicia wished to try whether the oracle of Mopsus could read, without opening it, a sealed note, containing the following words : " Shall I sacrifice to thee a

A letter was placed upon the fingers of one of the patients, who immediately said, " If I were not discreet, I could tell you the contents; but to prove that I have read it, there are just two lines and a half." The same patient enumerated exactly the most remarkable articles which were in the pockets of a whole company.

These phenomena are sufficiently wonderful; but the following experiments afforded still more surprising results. Another patient, Madame de St Paul, was in a state of as perfect somnambulism as the preceding, only that, during the crisis, she was incapable of speaking. She carried on a conversation, however, by means of signs, with the Chevalier Dolomieu, brother to the celebrated naturalist, who interrogated her mentally. " After placing the chain," says M. Petetin, " upon the *epigastrium* of the patient, I gave the ring to M. Dolomieu. No sooner had this gentleman touched his lips, than the features of Madame de St Paul expressed attention. Every question addressed to her mentally gave a new expression to her countenance, and produced a great change upon that of the interrogator. She ended by smiling, and making two approving signs with her head. M. Dolomieu declared that this lady had answered categorically to his thoughts."

white or a black ox?" The oracle returned the note unopened, with the answer, " black."—PLUTARCH, *On the Cessation of Oracles*.

M. Dolomieu then requested the patient to answer, by affirmative or negative signs, to the questions which he was about to put to her aloud. He succeeded in making her express that what he had in his pocket was a silver seal with three sides, and the name of the animal engraved on his arms.

Finally, it was found, in the course of these experiments, that if several persons form a chain, the last having his hand upon the stomach of the patient, and the first, who is at the greatest distance, speaks in the hollow of his hand, the patient will hear perfectly well; but will cease to hear even the loudest voice, if the communication between the chain be interrupted by a stick of sealing-wax.*

The work of M. Petetin,† in which these remarkable observations are recorded, was published after his death, and contain a variety of other singular facts, which he still continued to explain upon his favourite hypotheses of *animal electricity*, although he found rea-

* I am aware that the greater part of these phenomena are sufficient to stagger all belief; and there may be individuals who would have been inclined to pass over the most wonderful of them unnoticed, in order the more readily to obtain credence for the others. I was unwilling, however, to exhibit the evidence in an imperfect or garbled state. All the facts rest upon the same respectable testimony—they are all connected with each other, and have all been witnessed, and consequently confirmed by other observers; as I trust I shall be able to prove in the sequel, to the satisfaction even of the most sceptical.

† *Electricité animale prouvée par la découverte des phénomènes physiques et moraux de la catalepsie hysterique, et de ses variétés, &c.* par M. Petetin, &c. 1808.

son to change his opinion with respect to *Animal Magnetism*, after becoming better acquainted with the subject. The accuracy of the experiments made by this author, and the truth of the results, have, so far as I am aware, never been called in question. They were witnessed and attested by all the physicians and learned men in Lyons and the neighbourhood—by MM. Coladon, Ginet, Dominjon, Dolomieu, Ballanches, Jacquier, Martin de Saint-Genis, Eynard, &c. all of whom declared that they had repeated the experiments upon Madame de St Paul, and were perfectly convinced of the reality of the phenomena.

I shall only add, upon the subject of these experiments, that, in refuting the theory of Petetin, M. Lullier Winslow, in the paper already referred to, admitted the accuracy of the facts, and the identity of the phenomena with those which occur in the magnetic practice; and he invited his brethren to make farther experiments and observations with a view to confirm them.

I am not aware that the recommendation of M. Lullier Winslow was immediately attended to in France. Catalepsy, I believe, is by no means a common disease, and it is possible, therefore, that opportunities of making farther experiments, similar to those of M. Petetin, may not have occurred to professional men. Some time after, however, an account of a very curious case was published in Germany by the Baron de Strombeck—

a case of spontaneous somnambulism, in which phenomena equally remarkable with those recorded by Petetin were observed, minuted, and attested, by three eminent physicians besides the Baron himself.* Upon first discovering the strange fact of the transference of the faculties in this case, M. de Strombeck emphatically observes, that "he was as much horrified as if he had seen a spectre."

Dr Bertrand, the very respectable author of a work upon Animal Magnetism and other writings, has shewn that the same phenomenon repeatedly appeared among the Quakers (*Trembleurs*) of the Cevennes, the Nuns of Loudun, and the Convulsionaries of St Medard.†

* Histoire de la guerison d'un jeune personne par le magnetisme animal produit par la Nature elle-même. Par un temoin oculaire.

† Du magnetisme animal en France, par M. Bertrand. Paris, 1826.

" L'exorciste Surin, parlant des religieuses de Loudun, dit qu'il peut jurer devant Dieu et sur son eglise, que plus de deux cents fois elles lui ont decouvert des choses tres secrètes cachées en sa pensée ou en sa personne. Ainsi dans l'affaire de Marie Buccaille, cette même faculté est également mise en avant; je copie textuellement les deux passages du factum redigé en sa faveur.

" Le sieur curé de Golleville rapporte que ladite Buccaille étant dans une de ses extases, il lui mit une lettre dans la main au sujet de la femme d'un de ses amis qui était malade; et qu'aussitot, sans avoir ouvert la lettre ni entendu ce qu'en lui voulait, elle se mit à offrir à Dieu des prières pour cette personne, qu'elle nomma.

" Le même curé rapporte que pendant une autre extase, ayant mis un autre billet entré ses mains, plié et cacheté, ou un homme demandait éclaircissement sur plusieurs choses, elle répondit pertinemment aux demandes qui lui étaient faites, sans ouvrir le billet."

With regard to the Convulsionaries of St Medard, M. Bertrand

The celebrated German physician and professor, Dr Joseph Frank, in his very learned work, entitled *Præcessos Medicæ Universæ Præcepta*, (Lipsiæ, 1817,) has given a long account of a curious and highly interesting case of this description, which occurred in his own practice, and in which several of the most extraordinary facts mentioned by Petetin were again witnessed and confirmed by competent observers. From this account I shall extract such of the particulars as illustrate the subject we are now investigating.

Louisa Baerkmann, a married woman, twenty-two years of age, was delivered of a child, which died soon after birth. Some time after, the mother was seized with a violent fever, accompanied with peculiar symptoms. She could not endure to be touched or moved, lay continually upon her back, suffered excruciating pain day and night, and scarcely slept. At first, she submitted to medical treatment; but afterwards lost all confidence in it, and followed the advice of certain empirics and old women. In consequence of an accidental fright, in her state of extreme weakness, she be-

quotes the following passage from the work entitled *Coup d'œil sur les Convulsions*:

"Un fait indubitable, certifié par une foule de personnes de mérite et très dignes de foi, qui l'ont vu et examiné avec tout le soin et l'attention possibles, est celui d'un convulsionnaire qui reconnaît et distingue par l'odorat, au point de lire ce qu'on lui présente, quoiqu'on lui couvre exactement les yeux avec un bandeau très épais, qui lui dérobe entièrement la lumière. La supercherie ne peut avoir ici de lieu; nulle maladie ne saurait produire cet effet," &c.—See Bertrand, pp. 451, &c.

came delirious, and afterwards exhibited some cataleptic symptoms. The patient, worn to a skeleton, rejected all human advice, put her whole trust in God, and prayed fervently day and night. After an interval of a week, her delirium returned, accompanied with singing, and a renewal of the cataleptic symptoms. At length, she had two paroxysms every week regularly, between four and five o'clock in the afternoon, in the course of which she became first cataleptic, then ecstatic, and at last ended by singing, deploring her dreadful state, and praying aid from Heaven. Dr Frank was at length called in, and found her in a most deplorable condition, almost as if life were extinct. In vain he called her by her name, and shook her by the arm. She appeared to be quite insensible. This state lasted a short time, and then she recovered, and had some conversation with the Doctor, who consoled her as well as he could, and took his departure. He returned in the evening, and found her again immovable, and apparently insensible, with the exception of a certain slight motion of the lips, as if she were praying and speaking to herself. In a short time, she began to sing, at first in a low, and afterwards in a loud and sonorous voice. The Doctor moved her arms with difficulty, and they always preserved the position in which he placed them, however incommodious. When the Doctor had witnessed this strange phenomenon for half an hour, he endeavoured in vain to rouse her, by repeat-

edly calling to her in a louder and louder tone. Her eyes were open, but fixed; the pupil immovable; the eyelids did not wink even at the approach of the finger, and there were no symptoms of vision. When pierced with a needle, no sign of pain was observed. The observations of Petetin then occurred to the Doctor; and having approximated his mouth to the epigastric region, he began to speak in a very low tone of voice, so as not to be heard by any of the bystanders. Immediately, the patient, as if returning to her senses, answered the questions put to her, nearly in the following manner :

Quest. Are you asleep? *Ans.* I was, but not now.—*Quest.* Do you feel any pain? *Ans.* As usual, in the legs and loins.—The patient being now allowed to repose, she again became cataleptic, and, after a few minutes, began to sing, as before. The Doctor then attempted to rouse her in the usual manner, but could not accomplish his purpose. But when he spoke upon the stomach, he received an immediate answer. Thus, the experiment succeeded twice, the intervals being filled up with catalepsy and singing. The Doctor declared this disease to be ecstasy combined with catalepsy; and he desired to have an associate and witness in a man rather incredulous, and not readily disposed to admit the reality of strange phenomena, viz. Andrew Sniadecki, professor of chemistry, and, at the same time, a skilful physician. Next day, about five

o'clock in the afternoon, the whole scene of the previous day was repeated in his presence.

On the following day, she again answered when spoken to, in a very low tone, upon the stomach ; and she also answered, when spoken to by M. Sniadecki in a low tone, near the right ear; but she did not seem to hear when any one spoke upon the pillow on which her head rested. She answered when an iron rod, a yard and a half in length, was applied to her right ear, M. Sniadecki speaking, in a low tone, at the other extremity of it. M. Niszkowski repeated the same experiment, with the same success, applying the rod to the *os frontis*.

Upon another occasion, when several physicians were present, Dr Barankiewicz interrogated the patient, but received no answer. Dr Frank then requested this gentleman to give him his hand, he (Frank) keeping his other hand constantly upon the epigastric region. Dr Barankiewicz now asked her : " Who am I ?" She immediately answered : " Dr Barankiewicz," although she had not previously perceived him enter the room. A cloth moistened with a solution of sugar in water was applied to the pit of the stomach, and she was asked what it was. She answered that it was sugared water ; and being again asked how she came to know this, she said that she felt a sensation of moist heat ascending from that region to the tongue, which immediately became affected with a feeling of sweetness. The cloth was removed, and she awoke. She was then

asked what it was that had been placed upon the epigastric region, and she answered that it was something moist, but she could not tell what.

At another time, the persons present formed a chain, each holding a hand of the other, Dr Frank placing one of his upon the epigastrium of the patient, and giving the other to Sniadecki. She answered the questions put to her by all, and named them in their order. When the Doctor's hand was removed from the epigastrium, she could hear nothing ; but when it was replaced, she again heard and answered questions.

I must refer the reader to the work of Dr Frank for many other particulars of this curious case, which is altogether exceedingly interesting, recorded with great minuteness of observation, and affords a strong confirmation of the results of Petetin's experiments. We find in it the transference of the faculties of hearing and sight to the epigastric region, and other parts of the body ; of that of taste to the epigastrium ; and the experiment of the chain succeeded in this instance, as in those mentioned by Petetin. The respectability of the learned Doctor, and of the other medical gentlemen who witnessed the phenomena, precludes all suspicion of imposition or deception. I may add, that, in former times, this case would probably have been considered as one of demoniacal possession. The patient was cured.*

* *Jos. Frank, Prax. Med. Univ. Præcepta, Part ii. vol. i. pp. 495, &c.*

Some years ago, a very curious memoir upon this subject was read in the Philomathic Society, at Paris, by M. Francoeur, the distinguished mathematician, who had recently returned from the waters of Aix, where he had been in the habit of associating with several respectable physicians, and particularly with M. Despine, principal physician to the establishment. These gentlemen mentioned to him that they had witnessed, during several months, the extraordinary phenomenon of the transference of the senses, and M. Francoeur thought himself bound to communicate their observations to the Society.

The following is the substance of the observations of M. Despine :—

In the first case, the patient, who was the subject of it, had the faculties of sight, hearing, and smelling transferred to the fingers and toes.

The second case is a great deal more curious. It is that of the daughter of M. R., a man of education, and much respected by all the inhabitants of the town of Grenoble, where he lived retired. He was much affected by his daughter's indisposition, which he made every effort to conceal, and declined the visits of the inquisitive.

Among the different phenomena successively manifested by Mademoiselle A., and which Dr Despine has described at considerable length, he dwells particularly upon that of somnambulism. M. Bertrand, in his work

already referred to, has transcribed the following passage, relative to the transference of the seat of the senses of sight, of hearing, and of smelling.

“ Not only did our patient hear with the palm of the hand, but we saw her read without the assistance of the eyes, by means of the extremities of the fingers alone, which she moved with rapidity above the page she wished to read, and without touching it, as if to multiply the sentient surfaces ;—she read, I say, a whole page of Madame Montolieu’s romance, entitled *Les Chateaux en Suisse*. In the page there were three proper names, of which she probably had never heard, and which she pronounced as correctly as a reader in the Academy. At other times, we saw her select from amongst a packet of upwards of thirty letters, one which had been previously pointed out to her ;—read upon the dial-plate and *through the glass* the hour indicated by a watch ;—open the watch, wind it up, and set it ;—write several letters (three of them are in my possession) ;—correct, upon a reperusal, the errors which had escaped her, always with the points of her fingers ;—re-copy one of her letters, word for word, reading with her left elbow, while she wrote with her right hand. We heard her describe the smell (of which the nostrils simulated the impression) and the species of such and such a flower, the leaves of which were placed in the palm of her hand. During all the experiments, a screen of thick pasteboard intercepted, in the strict-

est manner, every visual ray which might otherwise have reached her eyes.

"The same phenomena were manifested at the soles of the feet, the epigastrium, and, indeed, all the different parts of the surface of the body."*

Doctor Delpit, in a curious memoir on two nervous affections, inserted in the *Bibliotheque Medicale*, has recorded a case very similar to that observed by Dr Despine.

"One of the patients," says this author, "read very distinctly when her eyes were entirely closed to the light, by conducting her fingers over the letters. I made her read in this way, whether by day-light, or in the most profound darkness, printed characters, by opening the first book which came to my hand; and sometimes written characters, by presenting to her notes which I had prepared on purpose before I went to her. Was it the sense of touch which supplied that of sight? I know not; but I affirm that she read quite fluently by conducting her fingers along the letters. One day she even pretended that, with a little more exertion (I quote her own expressions), she should be able to read with her toes."†

* Bertrand, p. 458, *et seq.*

† Bertrand, pp. 462, 463.—Upon the same authority, I may mention that, in the short reflections made by Dr Delpit upon these experiments, a reference is made to several known authors, and particularly to Dumas. "Five years ago," says this celebrated author, "a young

The case of Miss M'Avoy of Liverpool, which occurred a good many years ago, and occasioned a great deal of acrimonious discussion, presented phenomena perfectly analogous to the two preceding.

This young lady was about fifteen years of age, and became blind in the month of June 1816. In the mid-

lady of the department of Ardeche, who had come to Montpellier in order to consult the physicians about an hysterical affection accompanied with catalepsy, presented an instance of a strange phenomenon. She experienced, during the whole continuance of her attacks, such a concentration of the sensibility in the precordial region, that the organs of the senses appeared to be entirely fixed there; she referred to the stomach all her sensations of sight, hearing, and smelling, which were not, at these times, produced in the usual organs. This rare phenomenon, observed in a person so interesting, became an object of attention to medical men, and of curiosity to the public."

(Van Ghert, in his account of the magnetic treatment of the Demoiselle B., mentions a similar circumstance. In that case he observed the transference of the faculties to the pit of the stomach; and the patient gave the following description of her feelings:—"When you fix your thoughts intensely upon me, I can see every thing; at these times, the eyes and the brain leave my head, and take up their residence beside the stomach. Wonderful as this may appear, I assure you that it is true. When I am startled, or you are disturbed, then the eyes and the brain return to my head."—*Archiv. für den thierisch. Magnet.* vol. ii. No. 1, p. 70.)

"I do not dissemble," continues M. Delpit, "that facts of this description, opposed to all the known laws of nature, should not easily and without restriction obtain the assent of men of sober and experienced minds. But if we multiply our observations of this kind,—if we scrupulously verify the most minute circumstance of each case, we shall be forced to recognise the possibility of a phenomenon, which, perhaps, only appears so marvellous in consequence of our want of a sufficient number of analogous facts to enable us to institute a comparison."—See BEUTRAND, pp. 436, &c.

dle of the month of October of that year, she accidentally discovered, for the first time, that she was able to read when she felt the letters of a book with her fingers. The following experiments were made upon her :—

Her eyes were bandaged in such a manner as to exclude every ray of light. Six wafers of different colours, placed between two plates of glass, were presented to her, and she named exactly the colour of each. When she touched the surface of the glass above the red wafer, she was asked whether that which was beneath might not be a piece of red cloth or paper? She answered, “No, I think it is a wafer.” She described the colour and figure of a triangular or semi-circular piece of wafer, placed, in a similar manner, between two plates of glass. She named the seven prismatic colours, which were painted upon a piece of paper, and said that the perception of these prismatic colours afforded her the greatest pleasure she had experienced since her blindness. The violet ray was the least agreeable to her.

She read several lines of small print by touching the letters ; and she afterwards read, by means of a convex glass, at a distance of nine inches from the book. When she read, she touched the surface of the glass gently with the points of her fingers. A penknife was laid upon the line she was reading, and she immediately perceived and named it. She could distinguish cut-

glass from rock-crystal, and pronounced several pieces of ornament, which had previously been considered as crystal, to be glass, which was afterwards confirmed. Several other experiments were made, in this case, which it appears unnecessary to particularise. At certain times, she possessed this power of distinguishing colours and objects more perfectly than at others. Sometimes it disappeared entirely, and, indeed, suddenly; and, upon these occasions, every thing appeared to her to be black. This sudden change she compared to that which she recollects to have experienced when a candle was extinguished, and she was left in darkness.

It does not appear that Miss M'Avoy could have had any conceivable motive for deception, even admitting that, with all the precautions that were taken during the experiments, any such deception had been possible. Her health was very infirm, and her disposition sensitive. The slightest noise was exceedingly disagreeable to her; and some of those persons whom curiosity brought to see her, did not always treat her with that delicacy which was due to her sex and circumstances.

The case of Miss M'Avoy excited a good deal of sensation among the physiologists; and a keen controversy arose between the believers and the sceptics. The phenomenon was declared by the latter to be contrary to all the known laws of nature and philosophy,—fact,

therefore, must bend to theory and preconceived opinion,—the thing was impossible and could not be true,—the whole business, in short, was pronounced to be mere deception, and the young lady herself an arrant impostor. This reasoning, however, did not shake the conviction of many of those individuals who had witnessed the experiments,—investigated the whole circumstances,—and satisfied themselves of the reality of the facts.*

Another case of catalepsy occurred very recently, and appears to have presented phenomena in all respects similar to those already described. I regret exceedingly to find myself under the necessity of giving the particulars of this very curious case at third hand, in consequence of having no access to the original sources. The following account, therefore, is extracted from the *London Medical and Surgical Journal* for December 1832, which professes to have borrowed it from the French *Gazette Medicale* of the previous month.

“ In a late number of the *Bulletin of Medical Sciences* of Bologna, there are details of the case of a young man treated in the *Hospital della Vita*, in the month of September last, to which, indeed, no credence could be given, were they not furnished by persons of cha-

* See the pamphlets published upon this occasion by Dr Renwick, Mr Egerton Smith, and others. Also, Thomson's *Annals of Philosophy*, and the *Philosophical Magazine* for February 1818.

racter, and likely to have taken due precautions against probable imposition. This man, who was of short stature, but well organized, and born of healthy parents, laboured under mental anxiety for some time previous to the 25th of July last, when, in affording aid to a person attacked with convulsions, his arm was grasped by the individual, and firmly held for a long time. From the impression produced by this last event, his health began to be affected, and he suffered particularly in the lower extremities.

" On the 15th of August, the following symptoms took place, which recurred, for the most part, in a tertian type, and regularly at a particular hour. After a most violent agitation of all the muscles, those of the face excepted, intense coldness of the extremities, hurried respiration, and other *avant-couriers*, the man became insensible to surrounding objects ; ceased to reply to questions, though put to him in a loud voice ; suspension of vision, taste, and sense of smell ; the skin insensible to pain when pinched, except at the epigastrium and palms of the hands, where feeling seemed to remain in all its energy. These symptoms usually lasted for about an hour and twenty minutes, and the patient had no recollection afterwards of any thing that occurred during the fit.

" The most surprising part of the history, however, is, that he answered questions, when put to him in a low voice, provided the mouth of the speaker was placed

near the epigastrium ; and during this trial, great care seems to have been taken, by plugging, bandaging, &c. to block up the passages of the ears. He seems to have been capable of indicating, during the access, the nature of certain bodies when applied to the epigastrium, or palms of the hands. It is stated, that, when desired (the voice of the speaker being directed to the part indicated), he would open his hands, which were firmly clenched during the fit. By the latest accounts, the disease seemed to have been mollified," &c. by medical treatment.

Even in the meagre details which are given of this case in the account referred to, we cannot fail to recognise a striking resemblance between the facts observed, and those which occurred in the experiments of Petetin, as well as in all the other cases which have been particularly noticed. In all of them, the functions of the usual organs of sense appear to have been suspended, and transferred to the epigastrium and the extremities. There are, no doubt, pretty strong shades of difference between some of these cases ; but in all, I think, the facts present analogous features, sufficient to entitle the phenomena to be arranged in the same class.

Here, then, perhaps I may be permitted to pause and inquire, whether, in the curious observation of Van Helmont,—in the phenomena exhibited by some of the Quakers of the Cevennes, the nuns of Loudun, and the convulsionaries of Saint Medard,—in the numerous,

minute, and careful experiments made by Dr Petetin,—in the other eight cases to which I have referred more or less at large ;—whether, I say, in the instances and observations I have already brought forward, the fact in question has not been fully and satisfactorily established. The phenomena themselves were unambiguous and obtrusive. The cases in which they were manifested, it may be remarked, occurred at different periods, and in different countries,—in France, Germany, England, and Italy ; and they were all witnessed and recorded by the most competent observers,—medical men of eminence in their profession,—without any possible concert amongst each other ; many of them, indeed, apparently ignorant of the observations of their predecessors, and stumbling upon the astonishing discovery, as it were, by mere accident.

But I have hitherto adduced scarcely one-half of the evidence upon record, with which I am acquainted, in support of the existence of this extraordinary phenomenon ; and, in the farther prosecution of this interesting investigation, I shall not hesitate to avail myself of the light thrown upon it by the professors of Animal Magnetism ; because, whatever differences of opinion may prevail in the views entertained upon this subject, considered as matter of theory, or whatever doubts may be expressed with regard to the propriety or the efficacy of the magnetic treatment, as a sanative process, every intelligent and competent judge now admits

that the most important facts, which are alleged to occur in the course of that practice, have been abundantly confirmed by evidence of the most irresistible cogency.

M. Tardy de Montravel* found that, during the magnetic somnambulism, in some cases, the region of the stomach was the seat of the sensitive faculties, and particularly of the sight. A somnambulist recognised the hour upon a watch, which was pressed close to the pit of his stomach. This species of perception was at first imperfect, but gradually became more and more distinct.

Dr Gmelin† made some interesting experiments, in order to verify this fact. He drew a card out of a mixed pack, and pressed the coloured side of it close upon the pit of the stomach of a somnambulist, so that no person could distinguish it. He then asked the somnambulist what card it was, and she answered that it was a pictured one. Some time after, she could distinguish whether it was a king, a queen, or a knave; she afterwards named the colour, and, at length, mentioned whether it was diamonds, clubs, &c. Upon looking at the card, she was always found to be in the right; and the result was always the same, when, to satisfy the sceptical, the eyes of the somnambulist were bandaged. M. Tardy also mentions the case of a somnam-

* *Traitément Magnet. de la Dem. N.*, vol. i.

† *Material. für die Anthropol.*, vol. ii.

bulist, who, with her eyes completely bandaged, so as to exclude the light, could read writings which were strange and unknown to her, provided they were placed close to the pit of her stomach.* When the somnambulists have cultivated this faculty by frequent exercise, it is no longer necessary to bring the object to be recognised into immediate contact with the patient ; it is then quite sufficient if it is held, at some distance, opposite to the pit of the stomach.† When this faculty becomes still more developed, somnambulists, it is said, can even distinguish objects through other intervening bodies, provided these be not electrical, such as sealing-wax, silk, &c.

The following case is very remarkable in many respects ; and the rank and character of the party, upon whose authority it rests, render it impossible for us to entertain the slightest doubt with regard to the truth of the facts related ; while the situation and known pro-bity of the patient preclude all suspicion of deception. It occurs in a letter addressed by his Excellency the Russian Count Panin, formerly Imperial Ambassador at the Court of Prussia, to a society in Paris.‡ I propose to extract from this letter such passages only as bear upon the point of the transference of the faculties.

James Macgill, a Scotsman, 46 years of age, and of a phlegmatic temperament, had been more than twelve

* Tardy, *ut supra.*

† Gmelin, *ut supra.*

‡ See the *Biblioth. du Magnet. Animal*, vol. iii. p. 128.

years in the Count's service, in the capacity of gardener, and was much esteemed by his master. He was always remarkable for his love of truth, and his abhorrence of falsehood.

While in the service of the Count, Macgill had always enjoyed good health; but in the month of May 1817, having gone upon a journey on some business of his master's, the horses ran down a declivity, and overturned the chariot, one of the wheels of which passed over his body. The fright and the shock occasioned by the fall, together with some considerable contusions, rendered bleeding advisable; but, unfortunately, nobody thought of it, and Macgill had recourse only to palliatives. No advice was to be had, and two months elapsed before the patient had an opportunity of consulting an English physician, who resided in the neighbouring town. Before the arrival of the Count, Macgill had taken a great deal of medicine without effect; and upon being questioned, the physician candidly confessed that he could not tell the nature of the gardener's complaint. The latter derived no benefit from the frictions, pills, and other remedies which were administered to him. He was extremely emaciated, and could not eat or drink without experiencing violent pains in the intestines. In these circumstances, the Count resolved to attempt a cure by means of *Animal Magnetism*. From this resolution he was not deterred by the presence of one of the Emperor's physicians, a

man of high reputation, the English Dr Crichton, who was then upon a visit to a relation of the Count's in the neighbourhood.

After a consultation with the two able physicians referred to, upon the nature of this disease, which appeared to be both very serious and difficult to define, they declared that the man's recovery was very doubtful. The Count afterwards ascertained that these two medical gentlemen did not conceal that they considered the case to be a desperate one.

Upon the Count's recommendation, the patient now renounced all medical prescriptions; and the following are some of the results of the treatment to which he was subjected, and which terminated successfully in a complete cure.

At the third sitting (28th September 1817), between one and two o'clock in the afternoon, Macgill entered into the state of somnambulism, after having been manipulated about fifteen minutes; and soon after, he was able to answer questions. His first answers, however, were rather incoherent. A gold ring having been placed upon the pit of his stomach, he was asked what it was. He answered that it was a ring; but he could not discover the colour of it, and took it for lead. During all this time, the patient's eyes were completely closed.

At the fourth sitting, an *Eight of Hearts* was applied to the pit of the patient's stomach. He did not recognise

it, but took it for a bound book. He saw a watch when placed in the same situation. He perceived the silver dial-plate and the hands, but could not tell the hour. Some moments afterwards, having been more effectually magnetised, he recognised a card applied to his stomach, called it first the *Queen* of Diamonds, but almost immediately correcting himself, he said that it was the *King*, which was the fact.

At the fifth sitting, several cards were successively applied to the pit of his stomach, and he recognised them all with more facility, and less hesitation, than the day before. At first, he mentioned the colour of the cards and of the marks impressed upon them, then their number, &c.

At the sixth sitting, a packet of calomel powder was applied to the pit of his stomach, and he was asked what he saw. He answered, without hesitation, that it was calomel, such as is prepared by the apothecaries ; that it was divided into five small packets, and he described precisely the colour of the powder.

At the seventh sitting, a mixed powder, which he was to take as a medicine, was placed upon the pit of his stomach, and he exactly described the colour of the powder, although inclosed in paper.

Such are a few of the phenomena described by Count Panin, in his very interesting letter. The characters of the Count and of his patient, together with their relative situation, preclude all suspicion of deception in

this case; the whole narrative contains only a plain statement of facts, without any attempt at embellishment; and these facts are analogous to a number of others, reported by different observers, all belonging to the same class.

In proceeding to the next case, I would beg leave to recall to the recollection of the reader, the particulars related, not only by Petetin, but by the Doctors Despine and Delpit, and others, who describe the faculties as having been apparently transferred, not merely to the *epigastrium*, but also to the extremities, as well as to other prominent parts of the body.

The celebrated Professor Kieser of Jena, an eminent anatomist and physiologist, and, otherwise, a man of extensive and varied acquirements, has given very ample and minute details of a most remarkable case of magnetic somnambulism, which occurred in the course of his own practice. This account is much too long to be given entire, besides that a great part of it is irrelevant to our present purpose. I shall, therefore, extract from it only such of the particulars as have a direct reference to the subject I am now investigating.*

Anthony Arst, the son of a shoemaker in Jena, aged eleven years and a half, was constitutionally subject to frequent and severe attacks of epilepsy. The professor, finding that the disease would not yield to the ordinary

* *Archiv für den thierischen Magnetismus*, vol. iii. No. 2.

remedies, determined to subject the patient to the magnetic treatment. He was accordingly magnetised, and, after a considerable period, placed in a state of somnambulism. This appeared, at first, in the form of a simple sleep, accompanied with various other phenomena,—such as convulsions, catalepsy, *tetanus*, *risus sardonicus*, St Vitus's dance,—until, at length, the somnambulism became perfect. While in this state, the visual power of the eye appeared to be completely annihilated, and the faculty of vision transferred to the whole surface of the patient's body, but especially to the more prominent parts. He saw distinctly with the points of his fingers, with the toes, the elbows, the shoulders, the abdominal region, the point of his nose, the chin, and the surface of the face. It was remarked, however, that this somnambulist required light in order to enable him to exercise this transferred faculty of vision, and that he could not see in the dark. But it was perfectly well ascertained that he did not see in the usual manner, as his eyes were closely bandaged.

These facts must, unquestionably, excite great surprise in the minds of all those who come, for the first time, to the investigation of this curious subject. The scientific reputation, however, and the honourable character of the learned professor, afford a sufficient guarantee for his veracity; and we have not the slightest reason to suspect imposition or deception in the phenomena which he so carefully observed. In a demon-

stration of this nature, too, *ce n'est que le premier pas qui coutre*;—if we have once satisfied ourselves of the possibility of the transference of a particular faculty from its usual and appropriate organ to one part of the organism, we can have less difficulty in conceiving that, in peculiar circumstances, it may be also transferred to others. Besides, a vast variety of other instances of the same phenomena, which are more or less curious and interesting, will be found in the works of Petetin, Puysegur, Caullet de Veaumorel, Mouillesaux, Gmelin, Heinecken, Wienholt, and a number of other authors.

I should be afraid of exceeding all reasonable bounds, were I to proceed to enumerate all those particular instances in which this phenomenon of the transference of the faculties has been observed. Hitherto, I have been careful to bring forward only such cases as have been recorded by individuals of competent attainments, and whose characters are, otherwise, above all suspicion. I am perfectly aware that, in demonstrating the existence of a fact so extraordinary and incredible as this, the maxim of the lawyers peculiarly applies, *Testimonia ponderanda non numeranda*;—the character of the witnesses is a matter of much more importance than their number; and, therefore, I have been particularly careful in the selection of my authorities. In the only two other cases which I propose to adduce, I shall rigidly adhere to the same rule. These two instances are not

only exceedingly remarkable in themselves, but they are supported by such evidence as even the most sceptical, I should think, would hesitate to reject. They are extracted from the late very able and impartial Report,—already submitted to the reader,—of nine French physicians of eminence, members of the Royal Academy of Medicine, who were appointed a committee to investigate anew the reality of the phenomena of *Animal Magnetism*. The extreme caution with which these intelligent gentlemen conducted their experiments, and observed the results, would, of itself, afford an ample security against any species of deception or imposture. I must quote the passages having reference to the subject in question at full length; lest, amidst the various interesting matter contained in the Report, they should not have been perused with that attention which their importance deserves.

M. Petit was magnetised, in presence of the committee, upon the 15th of March 1826, at half-past eight o'clock in the evening, and was set asleep in the space of about one minute. The committee were determined to assure themselves that the eyelids were exactly closed. "For this purpose," in the words of the Report, "a candle was almost constantly held, during the experiments, before the eyes of M. Petit, at a distance of one or two inches; and several persons had their eyes continually fixed upon his. None of us could perceive the slightest separation of the eyelids. M. Ribes,

indeed, remarked that their edges were superimposed so that the eye-lashes crossed each other.

“ We also examined the state of the eyes, which were forcibly opened without awakening the somnambulist ; and we remarked that the pupil was turned downwards, and directed towards the great angle of the eye.

“ After these preliminary observations, we proceeded to verify the phenomena of vision with the eyes closed.

“ M. Ribes, member of the Academy, presented a catalogue which he took from his pocket. The somnambulist, after some efforts which seemed to fatigue him, read very distinctly the words : *Lavater. Il est bien difficile de connaitre les hommes.* The last words were printed in very small characters. A passport was placed under his eyes ; he recognised it, and called it a *passe-homme*. Some moments afterwards, a *port d'armes* was substituted, which we all know to be in almost all respects similar to a passport, and the blank side of it was presented to him. M. Petit, at first, could only recognise that it was of a particular figure, and very like the former. A few moments afterwards, he told us what it was, and read distinctly the words : *De par le roi*, and on the left, *port d'armes*. Again, he was shewn an open letter ; he declared that he could not read it, as he did not understand English. In fact, it was an English letter.

“ M. Bourdois took from his pocket a snuff-box, upon which there was a cameo set in gold. At first the

somnambulist could not see it distinctly ; he said that the gold setting dazzled him. When the setting was covered with the fingers, he said that he saw the emblem of Fidelity. When pressed to tell what this emblem was, he added : ‘ I see a dog—he is as if on his hind legs before an altar.’ This, in fact, was what was represented.

“ A closed letter was presented to him : He could not discover any of its contents. He only followed the direction of the lines with his finger : But he easily read the address, although it contained a pretty difficult name : To M. de Rockenstroh.

“ All these experiments were extremely fatiguing to M. Petit. He was allowed to repose for an instant : Then, as he was very fond of play, a game at cards was proposed for his relaxation. As much as the experiments of pure curiosity seemed to annoy him, with so much the more ease and dexterity did he perform whatever gave him pleasure, and this he entered into of his own accord.

“ One of the gentlemen present, M. Raynal, formerly Inspector of the University, played a game at piquet with M. Petit, and lost it. The latter handled his cards with the greatest dexterity, and without making any mistake. We attempted several times in vain to set him at fault, by taking away or changing some of his cards. He counted with surprising facility the points marked upon his adversary’s marking card.

" During all this time, we never ceased to examine the eyes, and to hold a candle near them ; and we always found them exactly closed. We remarked, however, that the ball of the eye seemed to move under the eyelids, and to follow the different motions of the hands. Finally, M. Bourdois declared that, according to all human probability, and as far as it was possible to judge by the senses, the eyelids were exactly closed."

After some other experiments, M. Dupotet played a game at *ecarté* with M. Petit, while still in a state of somnambulism, in order to divert him. The latter played with the same facility and dexterity as before, and with similar success.

The other case reported by the Committee of the Royal Academy of Sciences, is that of Paul Villagrand, student of law, who had an attack of apoplexy, which was followed by paralysis of the whole left side. In this case, the magnetic treatment was pursued with remarkable success. The following phenomena were observed with regard to his exercise of the faculty of vision.

" Upon the 12th of January, your committee met again at the house of M. Foissac, where there were present M. E. Lazcase, deputy, M. De _____, *aide-de-camp* to the king, and M. Segalas, member of the Academy. M. Foissac told us, that he was going to set Paul asleep, that in this state of somnambulism a finger

should be applied to each of his closed eyes, and that, in spite of this complete occlusion of the eyelids, he should distinguish the colour of cards, that he should read the title of a work, and even some words or lines pointed out at random in the body of the work. At the end of two minutes of magnetic manipulations, Paul fell asleep. The eyelids being kept closed, constantly and alternately by MM. Fouquier, Itard, Marc, and the reporter, there was presented to him a pack of new cards, from which the paper covering bearing the government stamp was torn off. The cards were shuffled, and Paul easily and successively recognised the King of Spades, the Ace of Clubs, the Queen of Spades, the Nine of Clubs, the Seven of Diamonds, and Queen of Diamonds, and the Eight of Diamonds.

“ While his eyelids were kept closed by M. Segalas, there was presented to him a volume which the reporter had brought along with him. He read upon the title-page : *Histoire de France*. He could not read the two intermediate lines, and upon the fifth he read only the name, Anquetil, which is preceded by the preposition *par*. The book was opened at the 89th page, and he read in the first line—*le nombre de ses*—he passed over the word *troupes*, and continued : *Au moment où on le croyait occupé des plaisirs du carnaval*. He also read the running title *Louis*, but could not read the Roman cypher which follows it. A piece of paper was presented to him, upon which were written the words,

Agglutination and *Magnetisme Animal*. He spelt the first, and pronounced the two others. Finally, the *procès-verbal* of this sitting was presented to him, and he read very distinctly the date and some words which were more legibly written than the others. In all these experiments the fingers were applied to the whole of the commissure of both eyes, by pressing down the upper upon the under eyelid, and we remarked that the ball of the eye was in a constant rotatory motion, and seemed directed towards the object presented to his vision.

“ Upon the 2d of February, Paul was placed in a state of somnambulism in the house of Messrs Scribe and Bremard, merchants, Rue St Honoré. The reporter of the committee was the only member present at this experiment. The eyelids were closed as before, and Paul read, in the work entitled *The Thousand and One Nights*, the title-page, the word *Preface* and the first line of the preface, with the exception of the word *peu*. There was also presented to him a volume entitled, *Lettres de deux amies, par Madame Campan*. He distinguished on a print the figure of Napoleon ; he pointed out the boots, and said that he also saw two female figures. He then read currently the four first lines of the third page, with the exception of the word *raviver*. Finally, he recognised, without touching them, four cards, which were successively presented to him

two and two,—these were the King of Spades and the Eight of Hearts, the King and Queen of Clubs.

“ At another sitting, which took place upon the 13th of March following, Paul attempted in vain to distinguish different cards which were applied to the pit of the stomach ; but he read, with his eyes still closed, in a book opened at random, and, at this time, it was M. Jules Cloquet who kept his eyes shut. The reporter also wrote upon a slip of paper these words, *Maximilien Robespierre*, which he read equally well.”

The two cases last referred to, are assuredly very remarkable, and they appear to have been observed with uncommon care and attention, and every possible precaution. Nothing, indeed, is there said of that transference of the faculties which, as we have seen, is reported to have been manifested in various other instances : and, with the exception of one unsuccessful attempt in the last case, no experiments seem to have been made with the view of ascertaining the existence of that phenomenon. But the circumstance of its not having occurred or been observed in either of these two cases, affords no good ground for suspecting its reality in others. The phenomena occasionally developed in catalepsy and somnambulism, although, upon the whole, of a pretty uniform character, and capable of being arranged under one class, are exceedingly variable in different individuals ; depending, probably, in a great degree, upon the perfection or imperfection of

the crisis, as well as upon the particular idiosyncrasy of the patient. M. Rostan, in his article *Magnetisme Animal*, inserted in the new *Dictionnaire de Medecine*, mentions that he observed a somnambulist, who told him, exactly and repeatedly, the hour indicated by a watch placed behind his head. The celebrated physiologist Dr Georget also affirmed, that he had observed a somnambulist who presented the most astonishing phenomena of prevision and *clairvoyance*; insomuch, he added, that in no work upon Magnetism, not even that of Petetin, had he ever met with any thing more extraordinary, nor even in all the other instances which he himself had witnessed. It is quite clear, indeed, from the description given of the state of the eyes of the patients, in the two cases reported by the French Academicians, that they could not possibly have exercised the faculty of vision in the usual manner; and this fact being once admitted, we can feel less difficulty in assenting to the reality of the phenomena which have been observed to occur in other instances.*

* The following curious particulars appeared in the *Morning Chronicle* of the 28th March last, and in other newspapers.

"**Bow STREET, Second sight.**—Thomas M'Kean, the father of the boy who has made so much impression by his gift of the *second sight*, was yesterday charged at this office, &c.

" Mr Burnaby, the clerk, having mentioned that the youth gifted with second sight was in the office, Mr Halls (the magistrate) expressed a wish to witness a little of his mysterious powers. His father then blindfolded him; and Mr Burnaby, taking out his watch, the father asked him of what metal it was composed. He promptly answered,

From the many well-authenticated cases I have been enabled to adduce upon this interesting point (and many more might have been brought forward, had it been thought necessary)—if there be any such thing as a rational belief in human testimony of the most cogent nature and unimpeachable character—any faith to be reposed in the most complete demonstrative evidence—I conceive myself fully entitled to conclude, from this induction of facts, that individuals have been known to exercise the faculty of vision without the ordinary use of the natural and appropriate organ of sight, and that, in many cases of catalepsy and somnambulism, this faculty, along with others, has been observed to be transferred to the *epigastrium*, and to other parts of the organism. Indeed, in confirmation of this fact, I might

'gold,' which was the fact. Mr B. then took out his purse, when the father asked the boy (who was still blindfolded) of what material it was made? He answered, correctly, 'of silk;' and in answer to further questions, said there was gold at one end, and silver at the other; and even told the dates of the years when the shillings and sixpences had been coined."

"The father stated that he had five children all gifted in the same extraordinary way."

I know nothing more of the history of this boy or of his family; nor am I aware whether any investigation into his case has been made by professional men—as I would strongly recommend. That the phenomena exhibited are of possible occurrence, I think I have sufficiently proved. At the same time, it is evident, that, in cases of this description, there is much room for deception.—*First Edition.*

I have heard nothing further of this case, and consequently, am not aware whether my recommendation has been attended to.—*Second Edition.*

refer to almost every case of the natural and of the magnetic somnambulism.

This phenomenon, indeed, is probably by no means altogether of modern discovery. It seems to have occurred in ancient times, and in all ages; of which fact, did it not lead to a tedious, and not very useful inquiry, pretty strong evidence might easily be adduced. Previously, however, to the more general diffusion of knowledge, and to the recognition of that truly philosophical principle suggested by Lord Bacon, of carefully interrogating Nature, and diligently treasuring up her answers, the subject appears to have been considered much too mysterious to be approached by the profane, and, therefore, was not likely to be subjected to a satisfactory scientific investigation. Nay, even within these last fifty years, when the extraordinary fact was again accidentally brought to light, carefully examined, honestly submitted to the consideration of the learned, and confirmed by numerous experiments in a variety of instances, a great deal of clamour was excited by the systematic physiologists, who set about demonstrating, by long theoretical reasonings, that the thing was absolutely impossible—contrary to all the known laws of nature, and inconsistent with all the acknowledged principles of science. Their adversaries answered by merely opposing the facts to the reasonings, and by maintaining that the laws of nature can only be legitimately deduced from an attentive observation of the

phenomena of nature. They might have added, in the words of Fernelius : *Desipientis arrogantiae est, argumentationis necessitatem sensuum auctoritati anteponere*; and here was a simple question of fact, which, laying all the other evidence aside, may be considered as having been completely set at rest by the decisive experiments made upon the cataleptic patients of Dr Petetin at Lyons.

In ascertaining the actual existence of a natural phenomenon, it is by no means necessary that we should be able to point out its cause. There are many facts in nature, of which, in the present state of our knowledge, we are unable to assign the causes. In the words of Vigneul de Marville, "we are not acquainted with the whole of man's constitution. His body is a delicate pneumatic, hydraulic and static machine, which possesses a million of secret springs, producing a million of effects which we do not know, and upon which we never reflect. When any strange phenomenon does force itself upon our notice, in consequence of some organic change; not knowing to what cause we should ascribe it, we immediately exclaim, "A miracle!"—whereas, were we carefully to investigate the matter, we might probably find something of every day's occurrence, when the secret has once been discovered, and that our surprise has been excited by nothing in the least degree wonderful."

If these observations are just in reference to the

changes that occur in the corporeal organism, much more are they applicable to all our attempts to investigate and explain the operations of the vital principle within us. "I admit," says a most respectable writer in the *Bibliotheque du Magnetisme Animal*, "I admit that the phenomena produced by the *vital fluid* are very strange; some of them, indeed, are so extraordinary, that we can scarcely believe our own eyes: I admit that they cannot be reconciled with the physical results hitherto collected, and that they are often apparently in manifest contradiction to the general laws of nature; so that the more learned we are, the less are we disposed to believe them. In short, it is more difficult to observe and become acquainted with the phenomena of the living world, although they take place within us, than with the phenomena of those physical worlds, of which the Keplers and the Newtons have discovered the laws: they have no resemblance to any thing we see elsewhere; and this made Buffon say that they were incomprehensible, because they were incomparable."*

I do not, therefore, conceive myself bound, as I unquestionably do not feel myself competently qualified, to offer any thing in the shape of a regular theory, as an attempt to account for the very extraordinary phenomena which I have thought proper to bring under notice. Indeed, in an investigation like the present,

* Bibliotheque du Magnet. Animal. vol. i.—Mémoire sur le fluide vital, par M. le Docteur Ch. Professeur.

the unprofessional inquirer, at least, might be permitted to take shelter under the principle, *Ubi experientia constat, ratio peti non debet*. At the same time, I trust I shall be excused for taking the liberty of referring the intelligent reader to the few hints I have ventured to throw out at the conclusion of the introduction to this work. If not considered as entirely unphilosophical and inadmissible, they may perhaps be found to lead to a scientific explanation of other singular facts, besides those which almost daily present themselves in the practice of *Animal Magnetism*.

I shall conclude this paper with the following observations:—For some time past, our physiological theories have manifested a decided tendency towards materialism. Of late, indeed, we seem to have got so much into the habit of speaking of the mental functions as being performed by certain organs, that we would appear to have entirely forgotten that every organism requires to be vivified by an active principle—that the employment of an instrument presupposes the existence of an intelligent agent. In our speculations upon these matters, we become so much interested in the play of the puppets, that we totally overlook the moving power; while contemplating the conditions of intelligence, we become blind to the principle.

But sensation and thought, as has been frequently remarked, are neither the properties, nor any of the necessary effects of matter; material structure alone

cannot be the cause of the vital phenomena; it may supply the organs or tools, through the medium of which these are ostensibly manifested, but these manifestations cannot take place without the operation of an intelligent cause. "That there is some invisible agent in every living organized system, seems to be an inference to which we are led almost irresistibly. When we see an animal starting from its sleep, contrary to the known laws of gravitation, without an external or elastic impulse, without the appearance of electricity, galvanism, magnetism, or chemical attraction; when we see it afterwards moving its limbs in various directions, with different degrees of force and velocity, sometimes suspending and sometimes renewing the same motions, at the sound of a word or the sight of a shadow, can we refrain a moment from thinking that the cause of these phenomena is internal, that it is something different from the body, and that the several bodily organs are nothing more than the mere instruments which it employs in its operations?"*

In the human economy, this invisible agent—this intelligent principle, which operates through the medium of certain corporeal organs—is called the soul. In the normal state of the organism, we know that our faculties of sensation and perception, at least, are exercised through the instrumentality of certain material organs, and hence physiologists have been led to con-

* Barclay On Life and Organization, p. 370.

sider these instruments as the necessary conditions of the exercise of these faculties. But are we prepared to maintain, that, in any circumstances, the soul is incapable of exerting its energies in a different manner? Do we hold that it is the eye alone that sees, the ear alone that hears, &c.; or shall we admit that there is an internal sense to which the impressions of sight, hearing, &c. are conveyed, and to which the material organs are merely subservient? And if we are disposed to make this admission, can we deny the possibility of impressions being communicated to this internal sense, in some extraordinary manner, without the necessary interyention of the usual organs? This is a question which is capable of being solved by experience; and if the cases I have adduced in this paper have been accurately observed and faithfully reported, of which there seems no reason to doubt, the question may be considered as having been satisfactorily decided in the affirmative. In the words of Epicharmus, quoted in the motto to this paper, "*The mind sees, and the mind hears; every thing else is deaf and blind.*" If the phenomena observed are calculated to excite our wonder, and to call forth our scepticism, if they appear to be inexplicable and irreconcilable with any of our previous notions, let us remember that the cause of this may be found in the narrowness and imperfection of our preconceived systems; and this consideration should lead us to a careful review of the principles of our knowledge, rather than to

an obstinate and irrational denial of the facts presented to us by experience.

Nil adeo magnum, nec tam mirabile quidquam,
Quod non paulatim minuant mirarier omnes.
Desine quapropter, novitate exterritus ipsa
Expuere ex animo rationem; sed magis acri
Judicio perpende: et, si tibi vera videntur,
Dede manus; aut, si falsum est, adcingere contra.

LUCRETIUS.

No. III.

ON THE COMMON CAUSE OF THE PHENOMENA OF LIGHT,
HEAT, MOTION, LIFE, ELASTICITY, SONOROUSNESS,
MAGNETISM, ELECTRICITY, GALVANISM, ELECTRO-
MAGNETISM, &c. BEING THE FOUNDATION OF A NEW
THEORY OF PHYSICS.

The great object of all philosophy is the intuition of unity in variety, and of variety in unity.
Plato.

Audendum est, et Veritas investiganda ; quam etiamsi non assequamur, omnino tamen propius, quam nunc sumus, ad eam perveniemus.
Galen.

It sometimes happens that philosophers even of the most profound and penetrating genius, when on the very verge of the most important discoveries, are accidentally diverted from the straight-forward path of legitimate investigation, and unaccountably permit themselves to be seduced into some of the by-ways of conjecture and hypothesis. Of this truth we have, I think, a very striking example in the case of the illustrious Sir Isaac Newton. To many persons, no doubt, it will appear to be the very *ne plus ultra* of arrogance and presumption to attempt to impeach the accuracy of any

of the speculations or conclusions of this prince of Natural Philosophers. But he who sets out honestly in search of truth, must not allow himself to be appalled by the splendour of names and authorities, however great and imposing : The paramount interests of science demand that we should boldly endeavour to beat down all those barriers by which her progress might otherwise be impeded. Besides, it will be observed that, upon the present occasion, no attempt, equally absurd and impotent, is contemplated to deprive Sir Isaac of his just, and fair, and honourable fame ; the object is not to impeach what he has done, but to point out what he has left undone—to shew that this truly great man was actually upon the very verge of one of the most brilliant and most interesting discoveries that ever rewarded the investigations of science ; but that, instead of trusting to his own natural sagacity, and steadily fixing his eye upon the simplicity of nature, he suddenly stopt short, and permitted himself to be drawn aside into the unfruitful regions of doubt and conjecture.

The preceding observations apply to Newton's inquiries into the nature of Light and Heat. Admitting, in its fullest extent, the vast merit to which posterity have justly found him entitled on account of his profound and accurate investigations into the properties and the phenomena of these elements, we may, nevertheless, be permitted to express some astonishment that the same acute and penetrating genius, which dis-

covered and demonstrated the principle of gravitation and the laws of material motion, should not have made an equally successful inquiry into *their* nature and source; and that it should have been reserved for far inferior philosophical talent, in an after age, to accomplish the development of principles which appear to have been almost within his mighty grasp, and thus to perform a task which would have added no small accession of splendour to that which already encircles his illustrious name.

In a supplementary letter to the 11th chapter of the 2d part of Voltaire's *Elements of the Philosophy of Newton*, there occurs a passage relative to this subject which merits some attention, as it appears to indicate the point at which this great philosopher was induced to stop short in his inquiries, and assigns the most probable reasons for this termination of his interesting investigations. "You say," observes Voltaire, in answer to a correspondent, "you say it is to be regretted that he (Newton) did not more clearly explain himself concerning the reason which often occasions the attractive force to become repulsive, and concerning the force by which the rays of light are darted forth with such a prodigious velocity; to which I may venture to add, that it is to be regretted that he could not know the cause of these phenomena. Newton, the first of men, was nevertheless but a man; and the first springs which nature employs are not within our reach, when

they cannot be subjected to calculation. It is easy to compute the force of the muscles, but all the mathematics are insufficient to inform us why they act at the command of the will. All the knowledge we have of the planets can never inform us why they turn from west to east, rather than in the contrary direction. Newton, though he anatomised the light, has not discovered its intimate nature. He knew well that the elementary fire is endued with properties which the other elements have not.

“ It passes through an hundred and thirty millions of leagues in a quarter of an hour. It does not appear to tend towards a centre, like body ; but expands itself uniformly and equally in every direction, contrary to the other elements. Its attraction towards the body it touches, and from whose body it rebounds, has no common ratio with the universal gravity of matter.

“ It is not even proved that the rays of elementary fire do not penetrate each other. Newton, therefore, struck with all these singularities, seems always to doubt whether light be a body or not. For my part, if I durst risk my doubts, I must confess to you that I do not think it impossible that *the elementary fire may be a being apart, which animates nature, and possesses the intermediate step between body and some other being we are unacquainted with*; in the same manner as certain organized plants serve as a passage or gradation between the vegetable and animal kingdoms.”

In the foregoing passage there are three things remarkable. In the first place, the idea thrown out by the author, or at least implied in his observations, that no element of nature is ascertainable, unless it is capable of being subjected to mathematical calculation—an idea which seems to have misled almost all natural philosophers since the days of Newton ; secondly, the doubts which Newton himself appears to have always entertained respecting the peculiar nature of light ; and, thirdly, the suggestion of the author that the elementary fire may be a substance *sui generis*, which animates nature, and possesses the intermediate step between body and some other unknown being—a suggestion which, it is hoped, will be confirmed and elucidated in the sequel of this paper.

Originally, Sir Isaac appears to have been disposed to adopt the principle of solar emanations or emissions as the primary cause of light ; but he afterwards wavered in his opinion, probably in consequence of the difficulty or impossibility of subjecting these emissions to mathematical calculation, and also, perhaps, influenced by a similar objection to that which subsequently occurred to Euler, viz. that the sun must necessarily become exhausted by this continual loss of a portion of its substance. Thereafter, following the example of Huygues and some other natural philosophers, Newton, abandoning his wonted caution, ultimately advanced a

very bold physical hypothesis, from which he endeavoured to deduce the nature of light and heat, and the explanation of all the phenomena of combination or motion which appear to result from certain intangible and imponderable principles. For this purpose, he assumed the existence of a highly elastic fluid (ethereal medium or ether) imperceptible to our senses, which extends every where in space, and penetrates all bodies with different degrees of density. The disturbance or agitation of this ether, by any cause whatever, producing a vibratory motion, he thought would occasion undulations, which must transmit this vibratory motion through all the rest of the medium, in the same way that sound is transmitted through air, but much more rapidly, by reason of the greater elasticity of the fluid. Newton, however, held that light itself consists of a peculiar substance different from this ether, and that their particles were independent, but that they mutually acted and reacted upon each other; so that this hypothetical apparatus of ether, vibrations, and undulations, was only created for the purpose of facilitating the explanation of the transmission of the substance of light, without attempting to trace the source whence the substance itself is derived. This hypothesis, indeed, is entirely gratuitous, unsatisfactory, and unnecessary; and its illustrious author himself never appears to have placed any confidence in it.

Since the days of Newton, "two different hypotheses

have been proposed respecting the nature of heat. In the first, it is regarded as a material substance *sui generis*, which pervades all nature, and is capable of combination with other bodies." "In the other, heat is regarded not as a material substance, but as a quality of matter." A body is said to manifest heat when "its constituent molecules, or the molecules of some subtle fluid which pervades it, are put into a state of vibration." This vibratory theory seems just a modification of the hypothesis of Newton, and affords no adequate solution of the question.

Two similar theories—the corpuscular and the undulatory—have been proposed with a view to explain the phenomena of light. Both have been supported by great authorities, and the question regarding their superior merit still continues unsettled. It can be shown that they are equally gratuitous, unsatisfactory, and unfounded.

The great progress which has been made in the experimental sciences during the last half century, and the many important discoveries which have rewarded the industry and the ingenuity of their votaries, appear to have now brought the question respecting the nature and causes of light and heat much nearer to a satisfactory solution. Indeed, even previous to the period alluded to, the unity of the cause of these and other elements was strongly suspected from the analogy of their phenomena.

The celebrated German metaphysician, Kant, in one of those early treatises in which he displayed the same penetrating sagacity and subtlety of genius in the physical as he subsequently manifested in the moral sciences, has expressed himself, upon this subject, in the following terms of prophetic anticipation. " In general, the magnetic powers, Electricity and Heat, appear to be manifested through one and the same medium. They can all be produced by friction, and I suspect that the difference of polarity, and the opposition of the positive and negative influence, might, by means of suitable experiments, be as clearly observed in the phenomena of heat. The inclined plane of *Galileo*, the perpendicular of *Huygens*, the quicksilver tubes of *Torricelli*, the air-pump of *Otto Guericke*, and the glass prism of *Newton*, have given us the key to great natural secrets. The positive and negative influence of substances, especially in the case of electricity, to all appearance still conceals important scientific results; and a more fortunate posterity, whose happy days we may anticipate in prospect, will, it is hoped, recognise the general laws of those phenomena which, at present, we perceive only in an ambiguous connexion."*

* See *Versuch den Begriff der negativen Grössen in die Weltweisheit einzuführen*, originally published in 1763, and inserted in Tieftrunk's Collection of Kant's miscellaneous writings. Considering the state of the physical sciences at the period when this treatise was written,—the science of Electricity was yet in its infancy,—the phenomena of Galvanism had not yet been brought to light,—Electro-Magnet-

I believe it is now the general opinion of the most eminent natural philosophers that light and heat are, in substance, identical—that they manifest similar properties—that they are probably derived from the same source, and, in all likelihood, depend upon the same principle. Radiation, for example, is well known to be a common property of light and of heat. Dr Lardner observes that “a hot body, such as a ball of iron, raised to the temperature of 400°, placed in the middle of a chamber, will transmit heat in every direction around it. Now, this heat may easily be proved not to be transmitted merely by means of the surrounding air; for in that case the effect would be an upward current of hot air, which would ascend by reason of its comparative lightness. On the other hand, the heat which proceeds from the ball is found to be transmitted downwards, horizontally, and obliquely, and in every possible direction. It is likewise transmitted almost instantaneously, at least the time of its transmission is utterly inappreciable. A delicate thermometer, placed at any distance below the ball, will be immediately affected by it; and the proof that this is true radiation, is found in the fact that the rays may be intercepted by a screen composed

ism was unknown,—the above anticipation, so consistent with the results of subsequent investigation, appears truly wonderful, and worthy of that genius which led the same eminent philosopher, from a profound consideration of the harmonious laws of the universe, to predict the existence of the planet Herschel many years before its actual discovery.

of a material not pervious to heat. The rays may be proved to be transmitted in straight lines in exactly the same manner, and by the same reasoning, as is applied to rays of light.

" But the radiation of heat, independently of any power of transmission which may reside in the air, is put beyond dispute by the fact, that a thermometer suspended in the receiver of an air-pump, when it is exhausted, is affected by the solar rays directed upon it." The same philosopher afterwards remarks, that " the calorific property which constantly accompanies the solar rays, as well as the rays proceeding from flame, would indicate that heat is a necessary concomitant or property of light." Moreover, " if rays of heat be received on a concave reflector, they will be reflected to a focus in exactly the same manner as rays of light; and in a word, all the phenomena explained in optics concerning the reflection of light by surfaces, whether plane or curved, are found to accompany the reflection of the non-luminous calorific rays." Finally, this identity is farther confirmed by the experiments of Berard, and others, on the polarization of light and heat.

In his treatise upon Electricity, in the valuable collection published by the Society for the Diffusion of Useful Knowledge, Dr Roget observes, that, " besides the well-known mechanical forces which belong to ordinary ponderable matter, the phenomena of nature exhibit to our view another class of powers, the presence

of which, although sufficiently characterised by certain effects, is not attended with any appreciable change in the weight of the bodies with which they are connected. To this class belong *heat*, *light*, *electricity*, and *magnetism*: each of which, respectively, produces certain changes on material bodies, either of a mechanical or a chemical nature, which it is natural to regard as the effects of motion communicated by the impulse of material agents, of so subtle and attenuated a kind, as to elude all detection when we apply to them the tests of gravity or *inertia*. If we admit heat and light to be material, analogy will lead us to ascribe the same character to electricity and to magnetism, notwithstanding their being imponderable." And in the preface and postscript to these treatises on the phenomena of electricity and magnetism, the same distinguished author farther observes, that those phenomena which were formerly regarded as the effects of two perfectly distinct agents, are now discovered to have an intimate relation to one another, and, in all probability, to be dependent on one and the same principle."

It will be observed, that Dr Roget considers it natural to regard the changes produced on material bodies by the action of heat, light, electricity, and magnetism, as the effects of communicated *motion*. Now, Sir Humphrey Davy argues, that the immediate cause of heat is *motion*; and "that the laws of its communication are precisely the same as the laws of *motion*." This opi-

nion of Sir Humphrey is entirely coincident with that to be maintained in this paper; and if we are entitled to assume, as warranted by correct induction from experiment and observation, that light, heat, electricity, and magnetism are all dependent upon one common principle, and are, in fact, the results of communicated motion; the question then comes to be, *Whence is motion itself derived?* And if we are able to discover the ultimate natural cause of any one or more of these classes of phenomena, it is highly probable that the same principle will afford an adequate explanation of the whole. It is the object of this paper to demonstrate, that motion and heat are both the product of one common cause; and that electricity and galvanism are referable to the same source, and are, in fact, produced by the agency of the former principles. This demonstration, it is hoped, will conduct us to the source of the elementary motion.*

* I have lately obtained possession of a small pamphlet, entitled, "Outlines of a Course of Lectures on Chemical Philosophy: or of a Theory which considers Attraction, Repulsion, Electricity, Caloric, Light, &c. as the diversified phenomena and effects of one Power. By Matthew Allen, Lecturer, &c." Published at London in 1819.—This small publication, I presume, is no rarity. The author considers all the phenomena of Nature to be dependent upon one sole principle or power, which he denominates the Grand Agent. He very ingeniously refers to the various phenomena of Attraction, Repulsion, Light, Heat, Electricity, Galvanism, Magnetism, &c. and shews that they are the different products of one cause, the undoubted effects of the Grand Agent of Nature, in some of its diversified combinations. But, however ingenious and sublime this synthetic view of Nature may

With regard to light and heat, it seems strange that any doubt should ever have been entertained respecting the source whence they are derived. Nature, at once, and without the necessity of any philosophical hypothesis, compels us to refer the effects of light and heat to the influence of the solar rays; and as we can ascend no higher in our search after a natural cause of these phenomena, and we know that motion is necessary to their production, we are warranted in concluding that the sun is the source of the elementary motion. Light, heat, and motion, then, being all centered in the day-star, a little reflection will probably convince us that the same influence is active in producing the analogous phenomena of electricity and magnetism. It is well known, that, when the electrical equilibrium of two bodies has been destroyed, its sudden restoration is attended with an exhibition of light, and an intense heat; and a similar effect is observed to take place in the Voltaic electricity. The reason of this phenomenon will be explained in the sequel.

The influence of the sun, as an important secondary cause or agent in the economy of the universe, has been more than suspected by many ingenious philosophical writers. Sir Charles Bell, in the Introductory Chap-

be, the author does not pretend to point out what this Grand Agent is in itself, although, in other respects, his theory seems to coincide entirely with that which I have undertaken to elucidate in this paper.

ter to his Bridgewater Treatise, observes, that “ we perhaps presume too much, when we say that *light* has been created for the purpose of vision. We are hardly entitled to pass over its properties as a chemical agent; —its influence on the gases, and, in all probability, on the atmosphere ;—its importance to vegetation, to the formation of the aromatic and volatile principles, and to fructification ;— its influence on the animal surface, by invigorating the circulation, and imparting health,” &c.....

“ It seems more rational to consider light as second only to attraction, in respect to its importance in Nature, and as a link connecting systems of infinite remoteness.”

The theory which maintains the identity of the cause of the phenomena of light, heat, motion, electricity, magnetism, &c. and refers the whole to a single and simple principle—the ever-active influence of the rays of the sun — is, at once, so natural and satisfactory, and so fertile in its explanations of Nature, that it appears almost wonderful how it should so long have escaped the perspicacity of philosophical inquiry. The well-known German philosopher Oken propounded a theory, in which he deduced the phenomenon of light from the action and re-action of the solar and planetary systems upon each other. According to this hypothesis, the sun alone is incapable of producing light, which is only generated by the conflict between the sun and the pla-

nets. Light, therefore, is produced by the activity of the sun, modified by the re-action of the planets. This theory, originally, I believe, suggested by Oken, has been systematically expounded and applied to the explanation of other phenomena, by another ingenious philosopher, Dr Runge, in an essay entitled, “*Die Genesis des menslichen Magnetismus*, in Professor Kieser’s *Archiv für den thierischen Magnetismus*, vols. 8. and 10.

A similar theory has been lately brought forward by a very intelligent French author, in an *Essai de Psychologie physiologique*, and he has explained and illustrated it with a copiousness, a clearness, and a cogency well calculated to rivet the attention, at least, if not to ensure a general conviction of its truth. I shall therefore take the liberty of entering at some length into the demonstration of this theory, as given by M. Chardelet.

Hitherto, according to this author, philosophers have generally proceeded to the investigation of Nature by the methods of analysis and decomposition—they have attempted to advance from the compound to the simple—they have carefully examined effects, and, after immense labour, have declared that first principles are undiscoverable, and that we ought to abandon the search after causes. They observed the elasticity of solids and fluids, the formation of undulations, the phenomena of sound, and its mode of propagation, and arrived at last at the examination of those of light, which, guided by

a supposed analogy, they attributed to the elasticity of a fluid diffused throughout space, thus terminating their inquiries by the assumption of a gratuitous hypothesis.

A question, however, may still arise, whether this elasticity, which plays so great a part in physics, be really a cause, or merely an effect. By investigating Nature according to a method more analogous to that which she follows in her operations, might we not be led to recognise the properties of the solar rays as producing, in the formation of compounds, the sonorous quality of the gases, the elasticity of fluids, and that of solids? This method is simple, easy to follow, and conducts us to none of those brilliant hypotheses, the very errors of which shed a lustre on the genius of their authors. By pursuing it, we shall find it unnecessary to invent any subsidiary hypotheses. We have only to observe Nature, and endeavour to ascertain the distinctive properties of her elements. A single principle being once demonstrated, all the consequences immediately flow from it in an easy and natural order.

The cause of motion and of life appears to be the same with that of light, heat, and elasticity. The system we are about to expound, recognises two physical elements—the *terrestrial* and the *solar*—matter and motion. Matter is that which constitutes the consistence of bodies. The rays of the sun unite with

matter, and are the sole and ever-active principle of motion. It is they which constitute the life of beings ; for life is the cause of organic motion in vegetables and animals. It will be easily perceived how fruitful this discovery must prove in its application to the sciences. Hitherto, the science of Physics has been unable to find the element of motion, and abandons the research. Physiology is ignorant of what life is, and yet pretends to explain its phenomena ; and Psychology, not knowing in what manner the spiritual faculties are united to the organization, is compelled to investigate the operations of the intellect, as if they were performed independently of the body ; whereas, they are only manifested through the intermediate agency of the corporeal organs, and Nature nowhere exhibits to us a soul acting without a body.

Several philosophers have deservedly obtained great reputation in consequence of the discoveries they have made in the domain of experimental science, and a number of most important facts have been elicited by their genius and industry. But it may be doubted how far it is advisable to restrict ourselves entirely to the investigation of effects, systematically to abandon the examination of causes, even when they obtrude themselves upon our notice, and to exhaust the genius of man in the accurate observation of the most minute insulated details, which can never lead us to a general and satisfactory theory.

All our knowledge ought to rest upon Physics, a science which embraces all Nature; but at present, our physical theories are merely ingenious methods, of no other utility than to facilitate the calculation of results. The science rests upon no solid foundation. It is divided into two compartments—the collecting of observations, and the explanation of phenomena.

The utility of the first compartment is unquestionable, and it has been conducted with admirable care and precision; but the second, consisting of systems produced by so much honourable labour, presents only hypotheses so unsatisfactory, that even those who make use of them in their demonstrations seem to place little confidence in them.

The system about to be unfolded, besides its simplicity, has the additional advantage of explaining every thing upon a single principle, and of affording a foundation for the sciences of Physics, Physiology, and Psychology.

When for ages men of genius have exhausted themselves in fruitless efforts to ascertain the principles of things, it is probable, either that success was impossible, or that they had followed a wrong path. It is necessary, therefore, either to abandon all research, or to re-commence our investigations in another method.*

* This is quite in accordance with the opinion of Lord Bacon :

“ Insanum quiddam esset, et in se contrarium, existimare, ea, que adhuc nunquam facta sunt, fieri posse, nisi per modos adhuc nunquam tentatos.”—*Nov. Organ.* i. 6. Again : “ Frustra magnum expecta-

The latter is generally viewed by philosophers with displeasure and disgust; for it is painful, after a career of imagined glory, to be forced back to the point from which we set out.

The study of Nature commenced with the examination of bodies, because they were easily apprehended; and first were observed their consistence, their weight, and their form. These bodies, however, are composed of different materials, and it was soon perceived that several of them had a common basis: it was thought possible, by decomposing them, to arrive at first principles. Nature forms aggregations, by means of elementary substances, and attempts were made by philosophers to discover these elements, by undoing her work. She begins at the beginning—they began at the end, proceeding from the compound to the simple.

Such was the direction given to the first labours of philosophers: their object was to discover the secret of Nature in the decomposition of bodies. This method, which has been constantly followed since, has led to the verification of a great number of effects in Physics; but it has rendered the discovery of causes almost impossible, and given occasion to the substitution of hypotheses necessarily chimerical. To convince us

tur augmentum in scientiis ex superinductione et insitione novorum super vetera; sed instauratio facienda est ab imis fundamentis, nisi libeat perpetuo circumvolvi in orbem, cum exili et quasi contemnendo progressu."—*Ibid.* 31.

of this, it will be sufficient to give a brief outline of the progress of science.

The first Natural Philosophers called *matter* the substance upon which nature impresses all forms ; they supposed that it was homogeneous, and designated by the same word the paste or mould common to the generality of things. They gave no name to the moving principle, although it is still more universal, because it was intangible, and their investigations were limited to that which fell under their hands. Experience demonstrated that bodies resist impulse in a ratio corresponding to their mass ; and from thence were deduced the *inertia* of matter, and the calculation of the laws of motion. These ideas of *inertia* and motion, then led the physical philosophers, who had decided that all was inert matter, to recognise in nature a principle of attraction and a principle of repulsion. At a subsequent period, they attempted to explain motion and rest by declaring that they were modes of being in bodies—as if these modes of being had not a cause. These contradictions were the consequence of that confusion of language which, under the name of matter, designated the union of two different elements, one of which remained unperceived. We owe the idea of rest to that substance which constitutes the consistence of things ; and if this material element is essentially immoveable, it is evident that some other principle must agitate nature, because every part of it is in motion.

Moreover, rest is the negation of motion, as darkness is the privation of light; and we may consider it as demonstrated that matter is essentially immoveable, since the difficulty of setting it in motion increases in the ratio of its mass. Originally, tangible substance was considered as the sole element in nature, and this was called matter. The word acquired a more extended signification in the progress of discovery, and, at present, it designates the unknown cause of all known effects. In order to give more precision and exactness to the expression, it is necessary to bring it back to its original meaning, and to give the name of matter only to that substance which constitutes the consistence of bodies.

Heat produces a particular sensation, and it was thought to have a special principle. Experience subsequently established the fact that caloric was the cause of the elasticity of fluids; but the same thing could not be said of the elasticity of solids, the vibrations of which were confounded with the sonorous quality, which, to speak properly, belongs only to the gaseous combinations.

The motion of liquid undulations served to explain the propagation of sound and of light. It was at first supposed that undulations were formed in the air, and there propagated sounds; but when arrived at light, it was found necessary to create a substance adapted to invest the undulating forms; for, in this respect, nature

presented nothing. It was imagined, therefore; that an imperceptible ether was diffused throughout space, which transmitted to us the vibrations supposed to exist in luminous bodies.

Such was the progress of science, advancing from the compound to the simple.

The human mind, in general, only makes new acquisitions in order to connect them with the old. Science, in undoing the works of nature, had at first only met with compound properties, and when arrived at the simplicity of light, it was attempted to explain the phenomena according to the analogies previously observed, that is to say, the unknown element which now presented itself was examined along with the known properties it had exhibited in combining with bodies.

This absurdity in Physics is one of the consequences of the method of investigation adopted. When from the compound we advance to the simple, the compound properties are necessarily investigated first; they become the basis of our subsequent knowledge, and when the elements afterwards present themselves, our systems are already completed, and, with their aid, we attempt to explain the inexplicable simplicity of first principles.

Philosophers, in advancing from elasticity to sonorousness, and from the latter to light, arrived, at length, at an elementary substance; and as elements cannot be explained, the explanation they attempted must neces-

sarily have been chimerical. I shall prove that it is so in reality, and that all elasticity is produced by the combinations of the solar rays with matter. I shall begin by examining what confidence is due to that ether, with which the natural philosophers attempt to account for the phenomena of light.

When an hypothesis takes place of an element of nature, it ought to be everywhere recognised. Thus the undulations of the ethereal fluid had this fate; to them were attributed the production of light, of colours, of heat, and of the chemical combinations. Their substance was declared to be homogeneous; but in order to produce so many different effects, they were supposed to be of various extent, and philosophers even went so far as to calculate the size of every undulation, yellow, green, or blue.

It would appear that, in creating the hypothesis of an ethereal fluid, the origin of the properties ascribed to it had been forgotten. In point of fact, we know that caloric is the productive cause of all fluidity; and it has been demonstrated to be the cause of the elasticity of fluids. If, then, the undulations of the ethereal fluid were the source of heat, we might ask—whence does this ether itself derive its fluidity and its elasticity. This question could only be answered by supposing it to possess an inherent fluidity and elasticity, which would be to make it an element; but, in that case, why create an ether, without any evidence of its existence,

when it were more natural and more simple to recognise immediately the same properties in the rays of the sun? Science would undoubtedly have adopted this idea, if it had not already investigated the elasticity of compounds, their fluidity and their undulations; the object was to connect the phenomena of light with those previously observed, and, thenceforward, there was imagined in space a peculiar elasticity, which may be supposed to exist in vibration.

Such is the origin of the ethereal fluid, and the question to be solved might be reduced to this, Is it the light which produces the elasticity, or the elasticity which produces the light?* The answer would not long continue doubtful for him who should consult only his instinct, and nobody would ever have thought of creating an ether and undulations in place of the solar rays, if an erroneous direction had not been previously given to the study of nature.

The method of reversing the order of formation, by ascending from compounds to their elements, has led to materialism; for as soon as the human intellect had first laid hold of the *tangibility* of bodies, it was forced to make this the resting point of all certainty, and the basis of all future knowledge. If, on the con-

* The elasticity of bodies is a compound property which does not manifest itself spontaneously; an action is necessary to set it in play: therefore, in order to complete the explanation of light by means of an ether, it was necessary to create vibrations in luminous bodies.

trary, philosophers had commenced by ascertaining the properties of light, they would have become convinced that nature contains two principles, and they would then have investigated their different combinations.*

This method was simple, and in all probability it would have been followed had it presented itself first; but now it is opposed to that which has been adopted; and the prejudices over which reason triumphs with most difficulty, are always those of science; they have exerted the most troublesome influence in all departments. Physics owe to them their ignorance of first motions; Physiology, that of the vital principle; and Metaphysics, the impossibility of explaining the connexion between the will and the acts of the organism.

Moreover, the elasticity of the ethereal fluid was not sufficient for the explanations of the physical philosophers, and in order to set it in play, they imagined the vibrations of luminous bodies. Thus, there was a second hypothesis brought forward in support of the first. A third would have been required in order to explain the formation of the vibratory apparatus, and then a fourth, to inform us how they begin to vibrate in combustion; but philosophers had the prudence to stop. It is no less certain that the continuation of these explanations led to the necessity of creating first principles,

* The element of tangibility is also that of immobility, for that which constitutes the consistency of bodies also constitutes their repose; so that we may consider the universe as containing two general principles—that of rest, and that of motion.

which, without the aid of so many hypotheses, might have been recognised, at once, in the solar rays.

In truth, when we ask natural philosophers the cause of the solar vibrations, they abandon their suppositions, and answer that principles are not capable of explanation. But here there is no question about a principle; for the vibrations are accidents which science ought to account for.

We can conceive, that if light be an element of nature, it should escape from bodies which are destroyed by combustion; but we cannot so easily conceive how philosophers have admitted into every combustible molecule an invisible vibratory apparatus formed in imitation of that which they suppose to exist in the sun.* Besides, the rays of the day-star change their direction, and become inflected in order to reach us. Light, then, is a substance; for attraction would not exert any particular influence on the undulations of a fluid, which, in rest as in motion, always equally occupied space.

The rapidity of the vibratory propagations depends upon the power of aggregation in the bodies which receive them.† We know, for example, that they ad-

* We might add, that the combustion of bodies would destroy the vibratory apparatus by setting it in motion, while in the sun it would be indestructible and in perpetual activity.

† The mode of aggregation in the gases should be more intense than that in the ether, if we judge from the resistance which they present: how comes it, then, that the propagation of sound in the air is so slow when we compare it with that of light, which is attributed to the undulations of the ethereal fluid?

vance more rapidly in certain solids than sounds in the air;* and we ask how it happens that they should be so rapid in an ether, of which the parts have no cohesion among themselves.

The necessity of explaining the diversity of colours has alone led to the supposition of the inequality of the luminous undulations, for the rings of the liquid undulations have always the same thickness; but this inequality should be destroyed in their rencounter, and produce new undulations necessarily uniform. Nevertheless, the experiment of the prism recalls all the colours, and makes them reappear.

Shall we suppose that the luminous undulations meet and mingle, and that each preserves its peculiar form? This is conceivable, if light be the elementary motion; for it may be composed of motions of several natures; but this phenomenon is impossible in the case of communicated motions.

Finally, the luminous rays seem to model themselves upon bodies, because they present us with their forms, a fact which ill agrees with the determinate form of ethereal undulations.

These observations appear sufficient to demonstrate the non-existence of the ether and its undulations. All these hypotheses, we cannot too often repeat, owe their

* A blow has been struck upon pipes of cast-metal of the length of 900 metres, and we are assured that the vibrations are propagated more rapidly in the metal than sounds in the air.

origin to the method of decomposition, which, advancing from the compound to the simple, has given an erroneous direction to the investigation of nature.

The luminous emissions are a fact attested by our senses. Euler was the first to doubt them, because he thought they would exhaust the day-star. But Nature every where reproduces herself by recommencing the circle; and it is probable that light is conducted back to its source by an unknown route,* as the rains restore to the ocean the waters it has lost by evaporation.

The direct testimony of the senses has lost its authority, and philosophers go in search of truth by more indirect methods, ever since Galileo discovered that they had deceived us in respect to the immobility of the

* The earth receives the greater number of solar rays—the elementary motion—between the tropics, and, after having made use of them, parts with them at the poles. This, perhaps, is the cause of the *aurora borealis*, and of the accumulation of electricity which is observed in these regions. This may also be the cause of the motion of the globe on its axis, for all the motions of the earth are produced by the rays of the sun. The impulse which they occasion gives it, and the internal agitation they produce may explain its diurnal rotation, and its annual revolution.

Attraction manifests in bodies an active power which matter, essentially inert, could not communicate to them. Attraction is perhaps produced by the elective affinity which is observed between motion and matter. This affinity acquires a material action in bodies; consequently, it tends to re-unite them, and increases in a ratio composed of their mass and their distance. Moreover, we know that the magnet and the electric fluid attract iron and several other substances; and magnetism, galvanism, and electricity, are only modifications of the motion of the earth, which has been already explained.

earth. In that case, however, reasoning was more to blame than they in leading us into error, by transferring to the relations of the heavenly bodies a proposition which was unquestionably true in reference to ourselves.

Science had discovered that light contains the colours. From this it was a necessary inference that it fixed itself in bodies, because they were coloured. This would have been simple as nature. On the contrary, it was supposed that the colour of bodies was only a phenomenon of reflection, of which an explanation was attempted by saying that they appeared white when they reflect equally the luminous undulations, and black when they extinguish them, and that the other colours are the result of intermediate effects. This ingenious hypothesis is by no means satisfactory, for by throwing red rays upon a yellow body, it is made to appear orange; that is to say, of its own colour compounded with that of the light thrown upon it: therefore, the colours exist simultaneously in the light and in bodies.

It is remarkable that the creation of false systems almost always requires a greater effort of ingenuity than the discovery of simple truth. By a fatality not easy to explain, men of science are generally disposed to keep at a distance from the easy route: it appears, that, in order to attract their attention, some reasoning

is necessary, sufficiently ingenious to be incomprehensible by the common sense of the unlearned. If, with less labour, philosophers had convinced themselves that the colouring of bodies depended upon the solar rays which became fixed in them, it would have followed that it was they which, in combustion, produced, in escaping, light and heat. *

This discovery led to that of elementary motions;

* We should the more readily admit that combustion is nothing else than a disengagement of the solar rays, because this explanation presents, in the case of all artificial lights, an unity of cause and a simplicity of means entirely conformable to the march of Nature (Ch.) I take the liberty of adding the following passage from Dr Roget's Treatise on Electricity: "The particles of air electrified by a pointed conductor are repelled by that conductor, and repel it also; and, moreover, repel one another: and the same effect takes place whether their electric state be of the positive or negative kind. Hence the stream of air which proceeds from any electrified point is very naturally accounted for. If the quantity of electricity which is transferred is considerable, it excites a more violent commotion among the particles which it influences in its passage. The intense energy of its repulsive action produces the most sudden and forcible expansion of that portion of the air which occupies this line; this air, thus expanding, must be expelled laterally against the surrounding particles, and must occasion their sudden compression. *The evolution of heat and light*" —of the solar rays, according to M. Chardel—"is the necessary consequence of this violent compression."

Atmospheric air, when suddenly condensed, produces such a considerable extrication of caloric, that cotton, and even heated charcoal, have been set on fire by it. Instances of this will be found in the air-gun, in compressing pumps for kindling tinder by means of violent compression from a single smart stroke of the piston, in percussion-locks for fowling-pieces, &c.

The cause of this phenomenon is easily explained upon the principles laid down by M. Chardel.—(J. C. C.)

for communicated motions cease as soon as they meet with adequate resistance ; while light, retained in compound bodies, preserves its intrinsic activity, and escapes from them with its original velocity.

The luminous emanations suffice for all explanations ; but they were examined after the impulsions, and the mind, pre-occupied with the calculation of material displacements, did not recognise motion in itself, because it is intangible. This was another consequence of the method of study. When the investigation of Nature has once commenced with the consistence of bodies, we endeavour to make every thing hinge upon it. Thus, as soon as there is a want of materiality, the field of hypotheses opens, and it is then that philosophers proceed to create an ethereal fluid, sonorous or luminous undulations, and vibratory apparatus, in order to set them in motion.*

All these fictions were difficult to invent, and required learning, and even genius ; while the mere observation of that which exists, would have been alone sufficient to enable us to recognise the truth.†

* The system of solar emissions adopted by Newton, is anterior to that of luminous undulations ; but it was found insufficient, because it was conceived after the observation of the material emissions, in advancing from the compound to the simple—a method from which science has never departed, and which must lead it astray from the nature of principles. The motion of light is not the result of an impulsion, but of the *motility* inherent in itself ; for it is the elementary motion, and all impulsions depend upon it more or less immediately.

† One might be tempted to apply to the present method of physical

The sun is the sole source of motion ; his rays animate nature by combining with it ; and combustion afterwards does nothing else than reproduce them to our eyes. They are the principle of vitality, and it is they which, absorbed by the earth, constitute the latent heat of Dr Black ; for heat is nothing more than a name given to the agitation they produce in matter. I shall by-and-by explain this phenomenon, but I must first say a word or two with regard to the sonorous undulations, and their progress.

The idea of hypothetical undulations is borrowed from liquids. They owe the property of forming them to the special mode of agglomeration which places them between solids and fluids, by giving to their parts too much union to permit them to separate without effort, and not enough to produce vibrations. It is not the same either with the gases or with solid bodies, which, consequently, can never produce real undulations. Philosophers, however, without being arrested by this difficulty, which they do not appear to have perceived, have determined that undulations are formed in the air, and that sonorousness is merely an application of the elasticity of bodies to a particular use. By this means, they confound vibrations and sounds, which it is necessary to distinguish, if these two phenomena of elasticity be produced, as I think they are, by combinations

investigation these words of the sacred writer, *Ambulavimus vias difficiles, et erravimus a via veritatis.*

in which motion acts in an opposite manner. It appears to me, in reality, that, in solids, matter absorbs motion and retains it in the bodies ; hence their consistency and the immobility of their forms ; whereas, in fluids, on the contrary, it is motion which holds matter in solution ; hence an internal circulation, and the continual expansion of the molecules, which does not permit them to stop at any determinate form.

The vibrations of solids are the result of accidental impulsions communicated at short distances following the continuity of their aggregations ;* whilst in fluids there exists no material aggregation—it is motion which in them is found in a state of continuity, and the vibratory accidents only impress upon it an agitation of a peculiar nature, which, in certain cases, produces sounds.†

It is astonishing that philosophers, who consider the propagation of sounds in the air as a phenomenon of elasticity, should have borrowed, in order to explain it, the idea of undulations in liquids ; for these last are

* Strike a beam at one extremity, the vibration is immediately communicated to the other ; but it ceases if you strike it transversely : thus it follows the direction of the fibres.

† The uniformity of the internal motion of the air explains much more simply the equality of the propagation of sounds, than all the hypotheses which have been so laboriously excogitated upon this subject. When the vibrations of the sonorous bodies bear principally upon the motion of the gaseous combinations, the sound produced is of great purity ; and, on the contrary, the more they act upon the material part, the more noise is the result.

nothing but air divested of the caloric which rendered it elastic.

In truth, the principle of heat is no better known than that of elasticity ; but let any one examine the nature of the solar rays, and he will be convinced that they are motion in themselves, and that heat is nothing else than the agitation they produce in bodies.

The solar rays, or, if you please, caloric communicates to fluid combinations an internal action which resists compression, being always at work to extend their material part ; this is called their elasticity.*

Solids present an opposite combination ; in them the tangible part predominates ; it exists in a state of continuity, and motion, confined within the forms, confers upon them the power of returning to themselves when opposed : Such is the cause of the phenomena of elasticity by flexion and by extension.

These explanations, which are believed to be as true as they are simple, may be applied to Physiology. In fact, muscular contractility and excitability are phenomena of elasticity produced by the vital element in animals, which form it by individualising motion. It is

* In the gaseous combinations, motion constantly labours to expand matter, which confers upon them an internal action to resist compression ; but if the latter is more powerful, it draws off the material part of the gas, and the light is disengaged : this is what takes place in the experiment of the *briquet pneumatique*, where the material part of the air being suddenly withdrawn, leaves the elementary motion at liberty, that is to say, the solar rays, which immediately escape.

always an internal power, generated by the union of the solar rays with matter; for life is nothing else than this; everywhere, by combining, they confer upon compound bodies their appropriate action. This is the secret of nature; and if the cause has remained so long concealed under its effects, it is because science has been confined to the observation of the latter.

It has been supposed that there exists in the universe an attractive and a repulsive principle; and the elasticity of solids has been ascribed to the former, and that of fluids to the latter. This error is another consequence of the method of investigation. When the examination of nature commences with compound bodies, opposite effects give rise to the supposition of contrary causes, although it is evident that the accidents of elasticity are all phenomena of motion.

From the period when Newton discovered that the elasticity of fluids was owing to the caloric lodged in the interstices of their molecules, it was experimentally demonstrated that that of solids had the same cause. In fact, it was enough to place water on the fire to be convinced that the gaseous elasticity was produced by the caloric which disengaged itself from the solid when in a state of combustion. The principle of elasticity, then, only makes solids pass into fluids by changing the mode of combination.*

* The operation of this principle may be exemplified by a very simple experiment. "Let a small quantity of water be placed in a glass-

Natural philosophy constantly speaks of fluids without properly defining what fluidity is. It is unquestionable, however, that liquefaction, vaporization, and electro-magnetism present a series of phenomena in

flask of considerable size, and then closed so as to prevent the escape of any vapour. Let this vessel be now placed over the flame of a spirit-lamp, so as to cause the water it contains to boil. For a considerable time the water will be observed to boil, and apparently to diminish in quantity, until at length all the water disappears, and the vessel is apparently empty. If the vessel be now removed from the lamp, and suspended in a cool atmosphere, the whole of the interior of its surface will presently appear to be covered with a dewy moisture; and at length a quantity of water will collect in the bottom of it, equal to that which had been in it at the commencement of the process. That no water has at any period of the experiment escaped from it, may be easily determined, by performing the experiment with the glass flask suspended from the arm of a balance counterpoised by a sufficient weight suspended from the other arm. The equilibrium will be preserved throughout, and the vessel will be found to have the same weight, when to all appearance it is empty, as when it contains the liquid water. It is evident, therefore, that the water exists in the vessel in every stage of the process, but that it becomes invisible when the process of boiling has continued for a certain length of time, and it may be shewn that it will continue to be invisible, provided the flask be exposed to a temperature considerably elevated. Thus, for example, if it be suspended in a vessel of boiling water, the water it contains will continue to be invisible; but the moment it is withdrawn from the boiling water, and exposed to the cold air, the water will again become visible, forming a dew on the inner surface, and finally collecting in the bottom, as in the commencement of the experiment.

"In fact, the liquid has, by the process of boiling, been converted into *vapour* or *steam*, which is a body similar in its leading properties to common air, and, like it, is invisible. *It likewise possesses the property of elasticity, and other mechanical qualities enjoyed by gases in general.*"—LAIRDNER, *On Heat.* (J. C. C.)

which motion goes on increasing until it attains to light, where it stops as at its source.*

It is of consequence, in investigating the formation of sonorousness, to examine the transition from the elasticity of solids to that of fluids. Liquids, placed in the intermediate state, show how the change is effected, and the proof of their small share of sonorousness results from the obstacle they oppose to the propagation of sounds.† We know, for instance, that a thick mist stops them at a short distance, and that the most sonorous bodies cease to produce sound when plunged into a liquid. Again, in the muteness of fishes we find a proof of the insonorous nature of water. The percussions of a bell placed under the exhausted receiver of an air-pump, prove that sound is extinguished in a vacuum, and that it revives upon the readmission of air; hence the conclusion that it (the air) was the only really sonorous body. It has been since believed that sonorousness is a property of all vibrations, because they create sound upon reaching our ears.‡ But these

* Heat liquefies, and ends by reducing to vapour the greater part of solids, and we have seen that caloric is only a name given to the solar rays combined in bodies. Moreover, it is well known that Electro-Magnetism abounds in luminous phenomena.

† The diminution of sound follows the progress of the solidification of the gases, and the contrary is observed in the vaporisation of solids. We may conclude from this, that sonorousness is a property peculiar to the nature of the gaseous elasticity.

‡ The sounds produced in the air contained in our ears do not prove

contain air, and notwithstanding the experiments to the contrary, it seems to be rigorously demonstrated that vibrations are not sounds, because deafness allows those to feel vibrations who are insensible to sounds. Besides, we have just seen that the former reach us in consequence of a series of material shocks, which are communicated at small distances, while the latter are transmitted to us by the internal motion of the air, which does not permit matter to conglomerate.*

In fact, it is to the continuity of the solid combinations that they owe the property of forming vibrations, whilst, on the contrary, it is the dissolution of matter in the motion of the gases which constitutes their sonorousness. Thus, in the transition of ice to the state of vapour, sonorousness is manifested after the *vibracity* has disappeared, and we may be assured that the contrary takes place in the opposite transition. Liquids, of which the consistence is intermediate, are remarkable for the struggle which their ephemeral and ambiguous state presents; for in them motion labours to dissolve

that the vibrations which cause them are sounds, but that the continuity of the molecules transmits the vibrations.

* The touch inspires us with so much confidence, that attempts have been made to assimilate all our other sensations to those we derive from it. The sensation of touch, however, results from immediate material contact, and that of sight, on the contrary, is owing to the impressions we receive from something immaterial and intermediate: the one addresses itself principally to the materiality of the organs, the ether to the life which animates them. The other senses all participate, in different proportions, in these two modes of being affected.

matter, which last, on the other hand, has a constant tendency to conglomerate; so that the sounds therein formed are immediately arrested, and the vibrations become changed into undulations.

Make water pass into the state of congelation—it becomes solid; its molecules conglomerate, and elasticity by flexibility is manifested. Expose it to heat—it becomes liquid, its motion is increased, its parts have almost no coherence, and the elasticity by flexibility disappears. Finally, reduce the water to steam—its volume then augments prodigiously, the continuity of motion takes place of that of matter, elasticity by compressibility is manifested, and sonorousness along with it.

Caloric predominates in the gases, whilst it is imprisoned in the forms of solid bodies; hence the sonorousness of the one, and the *vibracity* of the other.

What has been said of the diversity of size in the luminous undulations is, in all respects, applicable to the sonorous. It is asserted that the extent of the latter varies from the infinitely small to thirty-two feet; and to give some consistency to this supposition, it is sought to be supported by calculations which are inapplicable to it.

It is certain that, in the formation of sounds, the rapidity of the vibrations increases in the ratio of the shortening of the sonorous body, so that the diminution of length is exactly compensated by the increased rapidity. The pipe of an organ, for example, which be-

ing thirty-two feet long, vibrates thirty-two times in a second, would vibrate sixty-four times, if it were only sixteen feet long. This applies to all lengths, and to all degrees of velocity, when compared.* Proceeding from this observation, it has been supposed that analogous undulations propagated sounds in the air, and their size has been measured by establishing a proportion between the time employed and the space traversed; but the exactness of this calculation, which rests upon the examination of vibrations, proves nothing in regard to the supposed existence of gaseous undulations, and, in this respect, the question remains entire. It has been already demonstrated that the nature of the gaseous combinations does not permit the formation of undulations; and it can be shewn that all the accidents which affect the rapidity of the vibrations, such as shortening the size and tension of the sonorous body, partake of the nature of the solid aggregations, and are inapplicable to those of gases, so that nothing analogous can be produced.†

Philosophers do not clearly explain how sonorous un-

* The relation between the length of the sonorous body and the rapidity of its vibrations, upon which, it would appear, the size of the sonorous undulations is made to depend, is not applicable to stringed instruments; for tension increases the rapidity of their vibrations, without altering the length of the vibrating body.

† Fluids are not susceptible either of tension or of shortening. All these changes are accidents which affect the form of bodies, and fluids have none.

dulations are formed, and still less how, with an extent of thirty-two feet, they are enabled to advance unbroken. Besides, we know that sounds, when expiring in the air, produce the 12th and 17th sharp, and make their octaves resound; whence it would follow that a single undulation could produce others of every size.

The phenomena of sound have a great analogy to those of light, for the latter contains the colours nearly as the motion of the air contains sounds. An accident of refraction displays the one—an accident of vibration causes the others to be heard; and it is remarkable that the minor gamut presents the sounds in the same order as the colours are presented in the successive bands of the rainbow. Moreover, these phenomena have a common origin, for we are indebted for light to the free expansion of the solar rays, and for sound to the continual motion they maintain in the gaseous combinations.

Light, heat, and elasticity are produced by the elementary motion; we call light the cause of the impressions which our eyes receive from it; heat, the sensation which it makes us experience when it penetrates our organism; and elasticity, the action it communicates to compound bodies by combining with them.

The solar rays enlighten us so long as they continue to expand around us; but light ceases as soon as they are arrested in a combination. They warm the atmosphere by uniting with the vapours exhaled by the earth; and if we examine the processes of nature, we

may easily assure ourselves that they enter into the formation of all vegetables.

In fact, a tree, when growing, daily absorbs and confounds with its substance a certain quantity of solar rays ; but they may be separated again by burning it, and then light is reproduced ; for combustion disunites the elements which its vegetation had collected together.*

The solar rays agitate the molecules of bodies in penetrating them. This agitation is what we call heat ; it is the operation which precedes the formation, or which accompanies the destruction of compound bodies ; it places itself in equilibrium and communicates itself, for motion engaged in matter extends itself until it either becomes fixed or escapes.

All combustion disengages motion, and, consequently, produces heat ; but the cause of the latter does not become luminous until it entirely abandons matter, and reproduces itself at liberty ; until then, the effects of heat approximate those of light in proportion as its intensity increases.†

To the rays of the sun we are indebted for light and heat ; but the one is the effect of the expansion of motion uncombined with matter, and the other is only a name given to the agitation which it carries into matter

* Friction produces heat, because it destroys the bodies, and replaces in expansion the motion which was combined in them.

† An intense heat traverses crystal nearly in the same way as light, whilst it obstructs a moderate heat.

upon entering it. Thence it happens that, in proportion as we recede from the earth, the light of day increases, while heat diminishes. It is certain that at a great elevation, even under the tropics, the snow never melts.

Thus, in order to separate the solar rays from the heat they produce, it is sufficient to insulate them from the terrestrial emanations ; this effect is obtained artificially under the receiver of the air-pump, and the same thing occurs naturally beyond the atmospheric air.*

The sun and the earth are the sources of motion and of the consistence of bodies, and we are only surrounded by different combinations formed by their union.

These may be arranged in three principal classes, relatively to the decrease of motion—Fluids, Liquids, and Solids. The earth furnishes the basis of the consistence of bodies ; it is this substance which we call matter. It is impossible, in the present state, to disengage it entirely from motion ; but experience proves that the density and fixity of bodies diminish as motion increases, and augment, on the contrary, when it is withdrawn.

* Although the rays of the sun first reach the heights, before they descend into the valleys, nevertheless heat is always formed in the plains ; and experience proves that combustion diffuses less heat in very elevated situations, as has been observed in Thibet. Moreover, we ill appreciate the heat of the sun when we judge of it by the effects which his rays produce upon the earth ; for heat results from the mixture : The solar rays are the elementary motion, and heat is the agitation which they carry into matter when they penetrate it.

We know, for example, that the augmentation of heat converts water into steam, and that its subtraction makes it pass into the state of ice. In solids, matter predominates, giving us the idea of rest. Liquids, placed in an intermediate state, preserve a doubtful character; a little more motion converts them into steam, a little less renders them solid. With regard to fluids, and especially the electric fluid, they present us with motion almost without restraint; and it may be proper to say a word or two of this last, before proceeding to discuss the formation of individual life, with which it has the greatest analogy.

At present, we designate, under the name of Electro-Magnetism, the cause of the magnetic, galvanic, and electric phenomena. The electro-magnetic fluid is a mixt substance, in which the solar rays exist in super-abundance. It is in some sort the life of the earth, for it is that portion of the elementary motion of which it forms its own particular motion.* Its rapidity has not yet been calculated, but it is far from being equal to that of light, because it only makes our planet traverse about 23,000 leagues in an hour.†

* This explains the influence of the sun upon the magnetic phenomena, its connexion with the variations of the magnetic needle, and the difference of the galvanic states in bodies, produced by change of temperature. It appears that we have succeeded, by insulating the violet rays of light, and causing them to fall upon steel needles, in rendering the latter magnetic; which presupposes a strong analogy, if not a complete identity, between them and the electric fluid.

† Light requires no more than eight minutes to travel about thirty-four millions of leagues, which separate us from the sun.

The union of the two elements in electricity gives to its action a character of violence which is capable of breaking in pieces the most solid bodies, whereas, light does not allow us to perceive the possibility of a collision. In the latter, all is motion—it agitates matter and can separate its molecules ; but it never clashes with the consistency of substances.*

The phenomena of the electro-magnetic fluid have an analogy with those of the individual life ; it is produced by the solar rays, of which the earth receives the greater part between the tropics, and exhales, probably, at the poles.† From this there results a circulation and an internal process, by means of which the atmospheric air escapes around our globe as a sort of transpiration.

Such is an abstract of the theory propounded by M. Chardel—a theory which appears to be completely borne out, and firmly supported by all the phenomena of Nature hitherto discovered and investigated, to confirm the anticipations of preceding philosophers, and to

* The electric fluid breaks bodies in pieces, because matter enters into its formation ; that is to say, something of the constituent principle of the consistency of things.

† This is believed to be the cause of the *aurora borealis*, and of the accumulation of electricity which is found at the poles. The heat produced by the earth in forming its life, that is to say, its *vis motrix*, must be greater internally than externally, and this seems to be confirmed by observation ; but it does not follow that the planets are extinct suns, for their nature, their functions, and the relations of the stars among themselves, place them in an order so different, that hypothesis ought never to have confounded them.

place, as it were, the keystone upon the arch of physical science. It sets out from the simple principle, that there are just two elements in Nature, *matter* and *motion*—the one having a terrestrial, the other a solar origin; and by the peculiar combinations of these two elements, which have an elective affinity towards each other, all physical phenomena are produced. Light, heat, magnetism, electricity, galvanism, electro-magnetism, &c. result from the combination of the elementary motion with matter. The solar rays are the source of the elementary motion, which, again, confers upon certain substances their elastic and sonorous qualities.

Should any persons be disposed to decline the investigation of this theory, on the ground that they do not find it surrounded by a sufficient number of experiments, it may be observed, that no new experiments were necessary, and that it relies for its support upon all those which have been already made. It is only requisite that we change the mode of investigation—that we descend from the elements to the compounds, instead of attempting, as has been hitherto done, to ascend from the compounds to the elements. It is not necessary that we should abandon the knowledge already acquired, but only that we should give a more rational direction to the method of investigation, and then we shall probably soon perceive, that the analogy which led philosophers to create an elastic fluid, in order to enable them to explain the phenomena of

light, is the most complete proof that light contains in itself the principle of elasticity. The question, then, comes to be, whether the solar rays are the effect or the cause; and, assuredly, the solution would not be long doubtful, if we only consulted common sense.

The present method of investigation is opposed to the order of Nature. To attempt, by destroying her works, to ascend from the compound to the simple, is to investigate in an erroneous direction: it is beginning at the end, and it were much better to begin at the beginning. In following the old method, the compound properties, by presenting themselves first to our notice, take the place of elements, and are employed to explain the latter when we examine them at a later period; and it is thus, that, in order to explain the phenomena of light, philosophers have ended by creating a chimerical elasticity in an imaginary fluid, whilst it would have been more natural and more easy to investigate first the properties of the solar rays.

After expounding the principles of his new physical theory, M. Chardel proceeds to explain their application to physiological and psychological science. But into this branch of his inquiries I do not propose to enter at present; because it appears to me that the principle themselves which constitute the foundation of the whole system, should first be recognised as true, before we attempt to extend them to other departments of philosophy.

I have already observed, that the theory here developed is remarkably distinguished for its extreme simplicity, as well as for the satisfactory manner in which it enables us to account for the most important phenomena of Nature upon one common principle, and without the necessity of having recourse to any subsidiary hypothesis. That the day-star is the great dispenser of light and heat throughout the whole solar system, is a fact obvious to our senses and common observation. We see our sun continually engaged in darting forth his brilliant emanations, communicating light, heat, motion, and animation to all objects within the sphere of their influence ; and the same constant *motility* is manifested in the incessant scintillations of the fixed stars, which apparently preside, as other suns, over other planetary systems. We find that, in proportion as this luminary recedes, and withdraws his enlivening beams from the earth, all nature droops, and languishes and dies, or, at least, becomes dormant, and is only resuscitated after a time, by the influence of his returning light and heat. We cannot wonder, therefore, that, in the infancy of the world, and among nations which had not been generally illuminated by the superior lights of Divine Revelation, this great second cause should have become the principal object of religious worship, and that the devotional gratitude of mankind should have prompted them to pay the highest adoration to that vast luminous body “ which looks from his

sole dominion like the god of this world." The rational devotee, indeed, was too enlightened to regard this luminary as the supreme object of his worship ; he considered it only as the visible emblem of that invisible Sun—that Eternal Spirit—which is the sole author of all material existence, and the sole object of all intelligent adoration.

" Let us," says the Hindoo in the Gayatri, or holiest verse of the Vedas, " let us adore the supremacy of that Divine Sun (opposed to the visible luminary), the godhead who illuminates all, who recreates all, from whom all proceed, to whom all must return, whom we invoke to direct our understandings aright in our progress towards his holy seat. What the sun and light are to this visible world, that are the *supreme good and truth* to the intellectual and invisible universe ; and, as our corporeal eyes have a distinct perception of objects enlightened by the sun, thus our souls acquire certain knowledge, by meditating on the light of truth which emanates from the Being of Beings."

We know that organic vigour, and redundancy of life, increase as the genial warmth augments, from the poles to the equator. In earthquakes and volcanoes, which appear to have one common origin, we may witness the tremendous efforts of the elementary motion which has been absorbed by the earth, to disengage itself from matter. In the thunder and lightning, we perceive several of the effects of the primary element

placed in awful activity—motion, light, heat, and sound. The same process of disengagement is observed to take place, in a less fearful degree, and less destructive form, in the *aurora borealis*, and the other electric phenomena which occur at the poles.

Philosophers seem now to be almost unanimously of opinion, that light, heat, magnetism, and electricity, are all the modified products of one common principle, and if they are right in their interpretation of Nature, it only remains for us to discover what that principle is. Now, with regard to light and heat, this principle can hardly admit of a serious question; and in respect to the others, if we are compelled to attribute them to the same cause, we cannot do otherwise than refer them to the influence of the solar rays, modified by their combination with matter. The whole of the phenomena to which I have alluded, may be produced, as Kant long ago observed, by friction. Light and heat escape without intermission from the sun, and are continually emanating from the earth. They are both evidently evolved by the compression of fluids, and by the destruction of the particles of solids.*

* Mr Lyell observes, that “the heat and cold which surround the globe are in a state of constant and universal flux and reflux. The heated and rarified air is always rising and flowing from the equator towards the poles in the higher regions of the atmosphere; and, in the lower, the colder air is flowing back to restore the equilibrium,”—*Geol.* vol. i. p. 174. Mr Lyell further remarks, that a corresponding interchange takes place in the sea. Does not a similar interchange

By concentrating the solar rays, and causing them to converge into a focus, we can produce intense heat, light, and combustion. By insulating the violet rays of the solar spectrum, and making them fall upon steel needles, the latter may be rendered magnetic, as has been demonstrated by the experiments of Morichini, Mr Christie, and Mrs Somerville. We know that the needle of the compass does not continue stable during the whole length of the day. In proportion as the sun becomes elevated in the horizon, the needle advances towards the west until towards one o'clock in the afternoon: it then approximates its primitive position until sunset; and when the sun has set, it continues at rest until next morning. The extent of these diurnal variations varies from day to day, and the variations are much greater in different latitudes; * and, which is still more

of electricity take place throughout the universe, for the purpose of maintaining the equilibrium?

The following singular fact was elicited during the examination of Captain Fitzroy of the Beagle surveying ship, upon a naval court-martial lately held at Portsmouth.—(Case of the ship Challenger, 1835.) He stated, that the late earthquakes on the western coast of South America have had the extraordinary effect of transforming what was once a current of two miles an hour to the northward, into a current of five miles an hour to the southward, and that the soundings along the whole coast have been materially changed.

* At Paris, in the month of June, the extent of the variations is fourteen minutes, and in the month of December, only nine. At St Helena and Sumatra, the diurnal variations are considerably less.

It had been at one time announced that the magnetic needle experienced no diurnal variations in Russia; but it seemed probable that

remarkable, the amount of these variations is greater in summer than in winter, and during the day than in the night.

The foregoing observations seem to place beyond all doubt the decided influence of the solar rays in determining the magnetic phenomena. With regard to electricity, Sir Humphrey Davy has observed, that "its silent and slow operation in the economy of Nature is much more important than its grand and impressive operation in lightning and thunder. It may be considered," he adds, "not only as directly producing an in-

this extraordinary and altogether inexplicable exception was entirely owing to the imperfection of the instruments employed by the Russian observers. This conjecture was fully verified by M. Kupffer, as appears from certain observations communicated to M. Arago in 1826.

M. Kupffer had carefully provided himself with very delicate instruments at Paris, and proceeding to Kasan, on the confines which separate Europe from Asia, he established experimentally that the diurnal variation is not less there than at Paris. The only difference was, that under this longitude, the declination being towards the east, whilst in our climates it is towards the west, the diurnal variations take place there in a contrary sense from those which are observed at Paris.

M. Kupffer not only established at Kasan the existence of the diurnal variations in the sense of declination, but thought he even remarked that the magnetic intensity of the earth varied according to the hours of the day, and also according to the seasons of the year. M. Arago thinks, that, in the present state of our knowledge, we cannot accord entire confidence to such results. We are still in a state of uncertainty relative to the diurnal variations which may take place in the inclination of the needle; and it is only when this last element shall have been demonstrated in a rigorous manner, that we shall be able to form a judgment on the question which M. Kupffer thought himself entitled to decide.

finite variety of changes, but as influencing almost all which take place: it would seem, indeed, that chemical attraction itself is only a peculiar form of the exhibition of electrical attraction."—*Consolat. in Travel*, p. 271.

Electricity has been considered as a source of volcanic heat. This is probably a mistake of the effect for the cause. According to the principles of the theory I am now illustrating, it would be more philosophical to consider electricity as the product of a peculiar combination of heat (the calorific rays of the sun) with matter.

It has now been demonstrated by the discoveries in Electro-Magnetism, that magnetism and electricity are always associated, and are probably only different conditions or modifications of the same power. Soon after the great discovery of Oersted, it was suggested by M. Ampere in France, and by Mr Fox in this country, that all the phenomena of the magnetic needle might be explained by supposing currents of electricity to circulate constantly in the shell of the globe, in directions parallel to the magnetic equator. Some philosophers were disposed to ascribe these currents to the chemical action going on in the superficial parts of the globe to which air and water have the readiest access; while others, with greater probability, referred them to thermo-electricity, excited by the action of the solar rays on the surface of the earth during its rotation. This

last hypothesis, indeed, seems to be corroborated by the facts I lately stated, relative to the correspondence of the diurnal variations of the magnet with the apparent motion of the sun; and by the recent experiments of Professor Seebeck, proving that electric currents may be produced and maintained in circuits formed exclusively of solid conductors by the partial application of heat.

Professor Cumming remarks, that Magnetism, to a considerable extent, is excited by the unequal distribution of heat among metallic, and possibly amongst other, bodies. "Is it improbable," he asks, "that the diurnal variation of the needle, which follows the course of the sun, and therefore seems to depend upon heat, may result from the metals, and other substances which compose the surface of the earth, being unequally heated, and consequently suffering a change in their magnetic influence?" Dr Traill considers "that the disturbance of the equilibrium of temperature of our planet, by the continual action of the sun's rays on its intertropical regions, and of the polar ices, must convert the earth into a vast thermo-magnetic apparatus;" and "that the disturbance of the equilibrium of temperature, even in stony strata, may elicit some degree of magnetism." Mr Christie found that, when different metals had their surfaces symmetrically united throughout, electric currents were still excited on the application of heat, the phenomena corresponding to magnetic

polarisation in a particular direction with reference to the place of greatest heat. Captain Foster's observations at Cape Horn, South Shetland, and the Cape of Good Hope, shew most decidedly that, in the *southern* hemisphere, the diurnal deviations of the *south* end of the needle correspond very precisely with those of the *north* in the *northern* hemisphere. Mr Christie concludes that, upon the whole, there can be "no doubt that the diurnal variation of the needle is due to electric currents excited by the heat of the sun."

In another passage, the same gentleman observes, that, "if electrical currents are excited in the earth in consequence of its rotation, we must look to some body exterior to the earth for the inducing cause. The magnetic influence attributed by Morichini and Mrs Somerville to the violet ray, and the effect which I found to be produced on a magnetised needle when vibrated in sunshine, and which appeared not to admit of explanation without attributing such influence to the sun's rays, might appear to point to the sun as the inducing body;" and he afterwards remarks, that even Mr Harris's results, which were different upon a repetition of the same experiments, may possibly be considered to indicate that the effects observed were due solely to currents of air excited by the sun's rays. Captain Foster, in perfect accordance with the conclusions previously drawn by Mr Christie from his experiments, considers that the times of the day when the diurnal changes of

magnetic influence are the greatest and least, point clearly to the sun as the primary agent in the production of them ; and that this agency is such as to produce a constant inflection of the pole towards the sun during the twenty-four hours.

“ Upon a review of all the phenomena of terrestrial magnetism, and considering the intimate relation which has been established between magnetism and electricity, by which it appears that, if not identical, they are only different modifications of the same principle, there can be little doubt that they are due to electric currents circulating round the earth ;” and we have every reason to presume that these currents are produced by the ever active influence of the solar rays. “ It has been said,” continues Mr Christie, “ that, if we refer the magnetism of the earth to another body, we only remove the difficulty, and gain little by the supposition. It, however, appears to me, that, if we could shew that the magnetism of the earth is due to the action of the sun, independent of its heat—which, however, I think the more probable cause—the problem would be reduced to the same class as that of accounting for the light of the sun, the heating and chemical properties of its rays : we only know the facts, and are not likely to know more.”*

* See Christie’s *Report on the Magnetism of the Earth*, in *Report of the Third Meeting of the British Association for the Advancement of Science*. Lond. 1834.

This fact of the dependence of Magnetism and Electricity upon the

Lightning is decidedly an electrical phenomenon; and, as Dr Roget observes, it has been known, in numberless instances, to destroy, and sometimes to reverse, the polarity of the compass; and he adds, that many disastrous accidents happening to ships, in consequence of mistaking their course, may very probably have been owing to this cause. A ship, in latitude 48° , encountered a violent thunder-storm; the mast was struck by lightning, which also reversed the poles of all the compasses, in the ship. It is stated, that in one of the compasses, the end which had before pointed to the north now pointed to the west. In another instance, a stroke of lightning passed through a box containing knives and forks, melting some, and scattering the rest about the room. *All those not melted had been rendered strongly magnetic.* In this last instance, we may clearly perceive the connexion between motion, light, heat, electricity, and magnetism.

The appearance of the *Aurora borealis* is also considered as a phenomenon of electricity. Now, this meteoric phenomenon has been frequently observed to be accompanied by a disturbance in the position of the compass; and a delicately suspended magnetic needle has generally exhibited, upon these occasions, very frequent influence of the solar rays, seems deducible not only from the researches of British philosophers, but also from the inquiries, experiments, and observations of our Continental neighbours, as is evident from the recent interesting labours of Alexander von Humboldt, Professor Gauss of Goettingen, &c.

quent oscillations.* The following singular instance of this influence is mentioned by M. Kupffer, whose observations on the diurnal variations of the magnetic needle have been already referred to. It appears that,

* "The magnetic property of the Aurora borealis—or its power of agitating the magnetic needle—had long been suspected by philosophers; and, though still doubted by some, and not confirmed by the observations of Captains Parry and Foster, seems now sufficiently established by the observations of Captain Franklin, Lieut. Hood, and Dr Richardson. At present, however, little more than the fact seems to have been ascertained; as great obscurity still hangs over the cause from which this effect proceeds, and the mode of its operation; and it sometimes happens that one observation has a tendency to neutralise the conclusion to which another would lead. The *Aurora* sometimes approached the zenith without producing the usual effect on the position of the needle. It is generally most active where it seems to have emerged from behind a cloud; and the oscillations appear only to take place when beams or fringes of the meteor are on the same plane with the dip of the needle. Captain Franklin was led to consider that the effect of the Aurora on the needle varied with its height above the earth. That it did not depend on the brilliancy of the meteor was manifest from the fact, that, in hazy, cloudy nights, the needle deviated considerably, though no *Aurora* was then visible; and he felt unable to determine whether this proceeded from a concealed *Aurora* behind the clouds, or entirely from the state of the atmosphere. Clouds sometimes during the day assumed the forms of the *Aurora*, and he was inclined to connect with their appearance the deviation of the needle which was occasionally observed at such times."—*Penny Magazine*, 21st December 1833.

These observations are perfectly consistent with our hypothesis. Presuming that the phenomenon of the Aurora is occasioned by the exhalation of light from the earth in the polar regions, the electrical influence would not depend upon the apparent brilliancy of the meteor, but upon the combination of this light with the other terrestrial exhalations contained in the atmosphere; and, consequently, this influence would be greater in the lower regions.

on the 13th of November 1825, the magnetic needle experienced at Kasan unusual and very sensible variations. The same phenomenon was observed at Paris on the same day, and at an hour which corresponded exactly with that in which it was observed by M. Kupffer, at the eastern extremity of the Russian empire. M. Arago had already noticed this fact in the *Annales de Chimie et de Physique*. Other observations attest the fact that, at the same time, an *Aurora borealis* was visible in the north of Scotland. Moreover, it is a very remarkable fact, that although at present no *Aurora borealis* are seen at Paris, yet the magnetic needle there is nevertheless very sensibly deranged by all those which appear in the polar regions. The observation of M. Kupffer shews that the influence of the one which appeared on the 13th of November 1825, was equally felt at Kasan and at Paris.

From all the facts and observations now brought forward, it appears abundantly evident that the phenomena of light, heat, motion, electricity and magnetism are intimately connected with each other, and in all probability have a common origin. Nature compels us to consider the solar rays as the source of light and heat; and these must necessarily possess an original and inherent *motility*, in order to permit their elements to expand. The phenomena of electricity and magnetism, we have every reason to believe, are produced by the combination of these primary elements with terrestrial matter.

If there exist any serious objections to this hypothesis, I must confess that, at present, I am unable to perceive them. I think it unquestionably entitled, at least, to the candid attention of philosophers, because, whether we consider its extreme simplicity, its conformity to nature, or its capability of affording an adequate and satisfactory explanation of the most important phenomena of the universe upon one common principle, it must certainly be allowed that it possesses a decided superiority over any other of a more complicated structure, which is not only forced and insufficient, but can only maintain itself by the feeble, unsatisfactory, and ephemeral support of a variety of subsidiary and still more gratuitous assumptions. I trust, therefore, that the subject will be minutely and impartially examined by others more conversant with physical inquiries, and, consequently, more competent to the investigation; and who, at the same time, feel an equal interest in the discovery and dissemination of scientific truth.

No. IV.

LITERATURE.

IN addition to the opinions incidentally expressed by many learned and eminent men, in favour of the reality of the action and of the phenomena of Animal Magnetism—some of which have been noticed in this work—I subjoin a list, for the benefit of the student, of works written exclusively upon the subject.

MESMER, Mémoire sur la découverte du Magnetisme Animal. Paris, 1779.—Précis historique de faits relatifs au Magnétisme Animal, &c. Londres, 1781.—Mémoire sur ses découvertes. Paris, an vii.

D'ESLON, Observations sur le Magnetisme Animal. Paris, 1780.—Lettre à M. Philip, &c. La Haye, 1782.

BERGASSE, Lettre d'un Medecin de la Faculté de Paris à un Medecin du College de Londres, &c. La Haye, 1781.

COURT DE GEBELIN, Lettre de l'auteur du Monde Primitif a MM. ses Souscripteurs. Paris, 1783.

CAULLET DE VEAUMOREL, Aphorismes de Mesmer. Paris, 1784.

Mesmer justifié. 1784.

L'Antimagnetisme, &c. Londres, 1784.

THOURET, Recherches et doutes sur le Magnetisme Animal. Paris, 1784.

Rapport des Commissaires de la Faculté de Medecine et de l'Academie des Sciences, &c. Par M. Bailly. Paris, 1784.

Rapport des Commissaires de la Société Royale de Medecine, &c. Paris, 1784.

Rapport de l'un des Commissaires (M. de Jussieu). Paris, 1784.

Rapport secret sur le Mesmerisme, &c. This Report was not published by the Commissioners themselves, but it will be found in the *Conservateur*, vol. i.

Observations sur les deux rapports, &c. Par M. d'Ealon, 1784.

GALARD DE MONTJOYE, Lettre sur le Magnetisme Animal, &c. Paris, 1784.

Doutes d'un provincial, &c. 1784.

J. BONNEFOI, Analyse raisonnée des rapports des Commissaires, &c. Lyon, 1784.

Reflexions impartiales sur le Magnetisme Animal, &c. 1784.

Observations adressées à MM. les Commissaires, &c. 1784.

Supplement aux deux rapports, &c. 1784.

BERGASSE, Considerations sur le Magnetisme Animal. La Haye, 1784.

Le Colosse aux pieds d'argile. Par M. Devillers. 1784.

Traité theorique et pratique du Magnetisme Animal. Par M. Doppet. 1784.

Extrait de la correspondance de la Société Royale de Medecine relativement au Magnetisme Animal. Par M. Thouret. 1785.

Lettre à M. Thouret, pour servir de refutation, &c. Par M. de la Boissiere. 1785.

Examen du compte rendu par M. Thouret, &c. Par J. Bonnefoy. 1785.

Lettre de M. d'Eslon à Messieurs les auteurs du Journal de Paris, &c. 1785. This letter was refused insertion in the journal to which it was addressed.

Rapport au public de quelques abus en Medecine, &c. Par M. L. F. Thomas d'Onglée, &c. 1785.

Mémoire pour M. Charles-Louis Varnier, Docteur Regent de la Faculté de Medecine de Paris, et Membre de la Société Royale de Medecine, &c. 1785. Varnier was one of those doctors who were expelled from the Faculty of Medicine, in consequence of his adherence to Animal Magnetism. He was a man of talent, and of a noble character. The Memoir, or Case, is exceedingly curious.

Examen serieux et impartial du Magnetisme Animal. Paris, 1784.

Essai sur les probabilités du Somnambulisme Magnetique, par M. Fournel. 1785.

Procédés du Magnetisme Animal. 1785.

Système raisonné du Magnetisme universel, &c. Par la Société de l'Harmonie d'Ostende. 1786.

Du fluide universel, &c. Paris, 1806.

Prospectus d'un nouveau cours théorique et pratique du Magnetisme Animal, &c. Par M. Wurtz, Docteur en Médecine, &c. Strasbourg, 1787.

Le Magnetiseur amoureux ; par M. V. (Charles Villers). Genève, 1787.

Considerations sur l'origine, la cause et les effets de la fièvre, &c. Par M. Judel, Docteur en Médecine, &c. Paris, 1808.

De la Nature de l'Homme, &c. Par M. P. J. Rachetier d'Agès. Paris, an VIII.

Appel au public sur le Magnetisme Animal, &c. 1787.

Lettre de M. le C. C. D. P. (le Comte Chastenet de Puysegur) à M. le P. E. D. S. 1783.

Détail des cures opérées à Busancy, &c. 1784.

Rapport des cures opérées à Bayonne par le Magnetisme Animal, &c. Par M. le Comte Maxime de Puysegur. 1784.

Recueil d'observations et de faits relatifs au Magnetisme Animal, &c. Par la Société de Gironde. Paris, 1785.

Nouvelles cures opérées par le Magnetisme Animal. 1784.

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Lettre de M. V. de la Boissiere, Medecin à Bergerac à M. Thouret, &c. 1785.

Du Magnetisme Animal et de ses partisans, par M. de Montegre, &c. Paris, 1812.

TARDY DE MONTRAVEL, Essai sur la theorie du Somnambulisme Magnetique. 1785.—Lettres pour servir de suite à cette essai. 1787.—Journal du traitement magnetique de Mademoiselle N.—Journal du traitement magnetique de Madame B.

Journal magnetique du traitement de Mademoiselle D., et de Madame N. Par M. C. de Lyon. 1789.

Extrait du journal d'une cure magnetique, traduit de l'Allemand. Rastadt, 1787.

Annales de la Société harmonique des amis réunis de Strasbourg, &c. 1789.

Extrait des journeaux d'un magnetiseur attaché à la Société des amis réunis de Strasbourg. 1786.

Nouveaux extraits des journeaux d'un magnetiseur, &c. 1788.

M. DE PUYSEGUR, Mémoires pour servir à l'histoire du Magnetisme Animal, &c. 2d Edition. 1809.—Du Magnetisme Animal, &c. 2d Edit. 1809.—Recherches, experiences et observations physiologiques sur l'homme dans l'état de Somnambulisme, &c. Paris, 1811.

DELEUZE, Histoire critique du Magnetisme Animal, &c. Paris, 1813.—Defense du Magnetisme Animal, &c. Paris, 1819.

M. FILLASSIER, *Quelques faits et considerations pour servir à l'histoire du Magnetisme Animal.*

DUPOTET, *Experiences publiques faites à l'Hotel-Dieu en 1820.*

M. P. FOISSAC, *Rapports et Discussions de l'Academie Royale de Medecine sur le Magnetisme Animal, &c.* Paris, 1833.

LEONARD (*Docteur*), *Magnetisme ; son Histoire, sa Theorie, son Application au traitement des Maladies, &c.* Paris, 1834.

WIENHOLT, *Beitrag zu den Erfahrungen über den Thierischen Magnetismus.* Hamb. 1787.—*Heilkraft des Thierischen Magnetismus, &c.* 1802—3.

E. GMELIN, *Ueber den Thierischen Magnetismus, &c.* Tübingen, 1787.—*Neue Untersuchungen über den Thierischen Magnetismus.* 1789.—*Materialien für die Anthropologie.* 1791—1793.

C. W. HUFELAND, *Gemeinnützige Aufsätze.*

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C. A. F. KLUGE, Versuch einer Darstellung des Animalischen Magnetismus, &c. Berlin, 1815.

J. D. BRANDIS, Ueber psychische Heilmittel und Magnetismus. Kopenh. 1818.

J. ENNEMOSER, Der Magnetismus, &c. Leipzic, 1819.

J. R. LICHTENSTAEDT, Erfahrungen in dem Gebiete des Lebens-Magnetismus. Berlin, 1819.

STIEGLITZ, Ideen über den Thierischen Magnetismus.

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D. G. KIESER, System des Tellurismus oder Thierischen Magnetismus. 2 vols. 8vo. Leipz. 1822.

P. J. HENSLER, Ueber die verschiedenen Arten des Thierischen Magnetismus, &c. Würzburg, 1833.

J. F. SIEMERS, Erfahrungen über den Lebens-Magnetismus und Somnambulismus. Hamb. 1835.

The above are but a few of the numerous works which have been published on the Continent, on the subject of Animal Magnetism; and I request it may be noted, that they have all been written by gentlemen of edu-

cation and intelligence, and by far the greater part of them by respectable, learned, and eminent physicians. Besides the magnetic Journals referred to in this work, a vast variety of interesting articles upon the phenomena and doctrines in question will be found in the medical and philosophical periodicals of the times, as well as in other publications in which the subject is incidentally treated or alluded to.

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